SUMMER INTERNSHIP PROGRAM

at

National Health Mission (NHM), Uttarakhand

From 8th MAY 2024 to 7th JULY 2024

A REPORT BY

AISHWARYA PUNDIR

Master of Business Administration
Hospital and Health Management

2023-25

under the Mentorship of

Dr. Kunal Rawal Associate Professor IIHMR

JAIPUR

Completion Certification from the Organization

CERTIFICATE

This is to certify that **Dr. AISHWARYA PUNDIR** of **MBA Hospital and Health Management batch 28** of **IIHMR UNIVERSITY** has worked with our organization for her summer internship from **8th MAY 2024** to **7th JULY 2024**.The overall performance shown by her during the period was excellent/good/average. This certificate is being issued to meet the requirements of the IIHMR University.

Date: 6/July/2024

(Signature of organization Mentor)

Name: Dr UMA RAWAT

Designation: Officer In charge MCH

Seal/Stamp of the Organization

(Dr. Uma Rawat)
प्रभारी अधिकारी
राष्ट्रीय स्वास्थ्य मिशन
उत्तराखंड

IIHMR UNIVERSITY

IIHMR University Faculty Mentor Approval

This is to certify that **Aishwarya Pundir** of academic year 2023-25 of **INSTITUTE OF HEALTH MANAGEMENT RESEARCH** has prepared a poster with respect to her summer internship held during May-June 2024.

She has carried out work as per the guidelines. Her poster is approved for presentation.

Date: 23/07/2024

23/07/2024

(Signature of Faculty Mentor)

Dr. Kunal Rawal
Associate Professor
IIHMR University Jaipur

NAME: AISHWARYA PUNDIR ROLL NO: 1668
STREAM: MBA HM-28

SIP ORGANISATION: NHM UTTARAKHAND

ORG. MENTOR: Dr. Uma Rawat Officer In Charge MCH NHM

FACULTY MENTOR: Dr. Kunal Rawal Associate Professor IIHMR

Comprehensive Maternal Health Assessment: Delivery Status, Trends in Deliveries & Anemia Screening in Uttarakhand

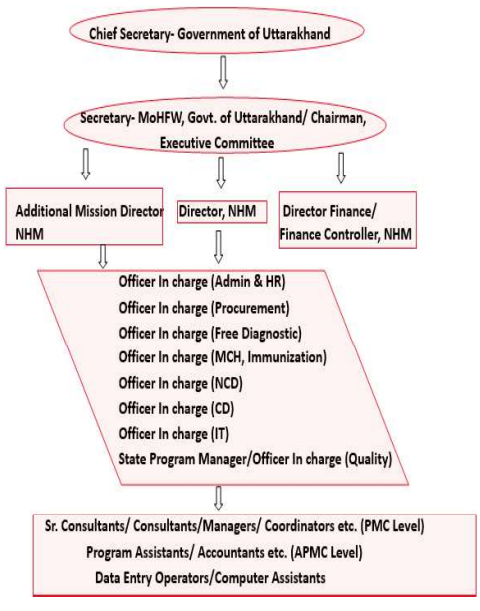
1. Introduction

Since 27th October 2005,Uttarakhand has launched National Rural Health Mission, a sub-mission
Under an over-arching National Health Mission (launched in 2013) subsuming National Urban Health Mission along with NRHM in it umbrella.
It envisages achievement of equitable, affordable, and quality healthcare services that are accountable and responsive to people's needs. Its focus is to strengthen primary health care through grass root level public health interventions based on community ownership.

2. Vision and Mision

Attainment of Universal Access to Equitable, Affordable and Quality health care services, accountable and responsive to people's needs, with effective intersectoral convergent action to address the wider social determinants of health.

3.Organisation Structure



4. Learnings

Delivery Status and Trends In Deliveries

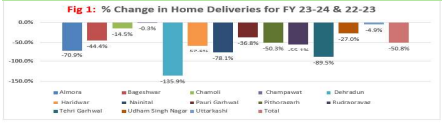


Fig 1: Depicts Home Deliveries Trends
Overall Decrease (2023-2024): -50.8%
Significant Decrease: Dehradun (-135.9%), Tehri Garhwal (-89.5%)

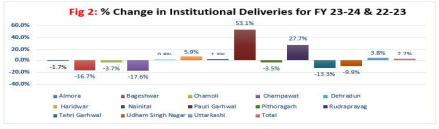


Fig 2: Depicts Institutional Deliveries Trends
Overall Change (2023-2024): +2.7%
Significant Increase: Pauri Garhwal (+53.1%), Rudraprayag (+27.7%)
Significant Decrease: Champawat (-17.6%), Bageshwar (-16.7%)

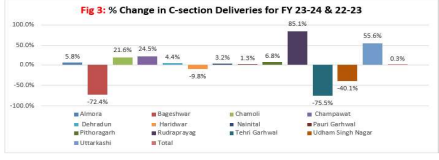


Fig 3: C-section Deliveries Trends
Overall Change (2023-2024): +0.3%
Significant Decrease: Bageshwar (-72.4%), Haridwar (-9.8%), Tehri Garhwal (-75.5%), Udham Singh Nagar (-40.1%)

FY 23-24		
Total Blocks in all the districts	95	
Total Health Facilities	2746	
Total Functional delivery points	250	9.10%
Total Public Institutional Deliveries	87656	
Night Deliveries	23296	26.60%
48-hour Stays	47010	53.60%

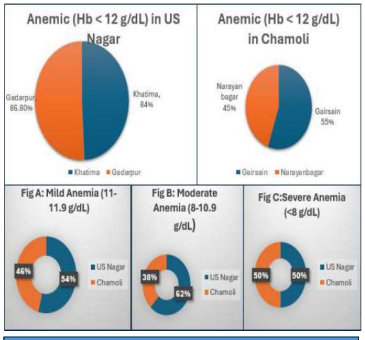
Functionality of delivery points for the FY 23-24

Field Visit

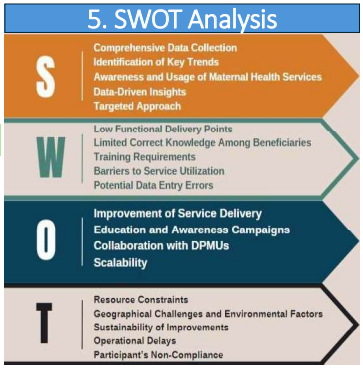
Area of study: Levels of healthcare included- DH,SDH,CHC
No. of Beneficiaries = 30
- Awareness: 70% of beneficiaries were aware of maternal health services.
- Knowledge: Only 6.66% could correctly identify the services provided under various maternal health schemes.
- Usage: 100% reported utilizing at least one maternal health service during their ANC visits.

Anemia Screening

No. of cases screened : 10595
US Nagar: 6744
Chamoli : 3851
Mild Anemia Cases: 3307
Moderate Anemia : 4447
Severe Anemia : 311



5. SWOT Analysis



6. Value addition

7.Usefulness of Internship

- Practical application of theoretical knowledge.
- Exposure to a multidisciplinary work environment.
- Insights into healthcare facilities and their functionality.
- Networking opportunities with professionals in the field.
- Improvements in skill sets.
- Career exploration and growth within the field of public health.

8. Challenges

- Steep learning curve in adapting to the organization's environment & procedures, norms & workplace standards.
- Challenges in collaborating with diverse team members.
- Exposed to an entirely new subject and topic.

9. Suggestions

- Enhance training and capacity building of health workers on the use of portable devices and accurate data collection methods.
- Invest in upgrading health facilities to meet the standards for functional delivery points.
- Conduct community awareness campaigns to improve knowledge about maternal health services and schemes.

WEEKLY REPORT (1)

Name of the Organisation: National Health Mission (NHM), UTTARAKHAND

Area/ Department/ Project of Summer Internship Program: Maternal and Child Health (MCH)

Name of the Student: AISHWARYA PUNDIR

Roll no: 1668 **Stream:** MBA HM-28

Week no: 1 **From:** 8 MAY 2024 to 10 MAY 2024

8th MAY 2024- On my first day as an intern in the MCH department at NHM, I was greeted by a warm and inviting atmosphere. The office space was well-organized and bustling with activity, immediately giving me a sense of the department's dedication to its work.

I was briefed about the department's goals and objectives by my organizational mentor, **Dr. Uma**, who generously helped me understand every aspect of it. She took the time to provide detailed insights into the department's mission and goals, ensuring I had a comprehensive understanding of our objectives. Her patient explanations and willingness to address all my queries instilled in me a profound sense of confidence and reassurance. Dr. Uma's mentorship set the tone for my entire internship, inspiring me to approach each task with diligence and enthusiasm. I am deeply grateful for her invaluable guidance, which continues to shape my journey in maternal and child health. In addition to her invaluable guidance, Dr. Uma graciously introduced me to Dr. Nitin and Dr. Ashu further enriching my first-day experience. This introduction not only facilitated my integration into the department but also paved the way for meaningful interactions and knowledge sharing.

One interaction that stood out to me was with **Dr. Nitin**, who also took the time to give me a brief overview of the department's mission and goals. He explained the IPHS guidelines to me, emphasizing their importance, and encouraged me to further educate myself on the topic by reading about it. He gave an overview of the project I'll be working on, which is yet to be finalized, and encouraged me to learn more about it so I can work efficiently on it.

Additionally, my sincere gratitude goes to **Dr. Ashu**, who further expanded on the Maternal Department's operations and was very helpful whenever required. Their genuine enthusiasm for the work being done in maternal and child health was contagious, leaving me feeling inspired and eager to contribute to the department's endeavours.

Overall, my first impression of the MCH department at NHM was extremely positive. The welcoming environment and passionate individuals I encountered on my first day set the tone for what I anticipated to be a rewarding and fulfilling internship experience.

9th MAY 2024- On the second day, I dedicated my time to thoroughly studying the IPHS guidelines of SHC-HWC and UHWC. I delved deep into the material, gaining a comprehensive understanding of the guidelines and clarifying any doubts I had along the way.

10TH MAY 2024- On the third day, I had the privilege of being mentored by **Dr. Ashu**, who guided me to expand my knowledge further on maternal health programs. She provided a comprehensive overview of the VHND guidelines, explaining them thoroughly and with dedication. Dr. Ashu patiently addressed all my queries and generously shared additional insights to deepen my understanding of the subject.

Activity Done	Introduction and Orientation Process. Familiarized myself with the department's goals, objectives, and workflow. Initial discussion on the project to be dealt with and methodologies to be followed.
Linking theory (Classroom learning) with practice at your organisation	Experienced organizational culture, behaviours, communication strategies, workflow, hierarchies, and norms which I had previously only read about theoretically in books.
Gaps identified on the working area.	Not yet.
Suggestions for improvement	Not yet.
Plan for the next week	**Commencement of the project to be undertaken** – -Analysis of delivery status, functional delivery points, number of night deliveries and no of women who stayed for 48 hrs or more for the FY 23-24 -Analysis of trends in deliveries, C-section and home deliveries (SBA and NON- SBA) for the last three FY -Analysis of JSSK indicators and it's comparison with physical data for the FY 23-24 to identify the gaps -Conduction of review meetings regarding the above mentioned parameters with the district officials on a weekly basis and understanding and advising them regarding the same.

WEEKLY REPORT (2)

Name of the Organisation: National Health Mission (NHM), UTTARAKHAND

Area/ Department/ Project of Summer Internship Program: Maternal and Child Health (MCH)

Name of the Student: AISHWARYA PUNDIR

Roll no: 1668 **Stream:** MBA HM-28

Week no: 2 **From:** 13 MAY 2024 to 18 MAY 2024

13TH MAY 2024 - Commencement of the project. Gathering comprehensive knowledge about the Health Management Information System (HMIS) and its applications. Gaining a practical understanding of the HMIS software. Analysing the data recorded by HMIS to understand its structure and content. Identifying and comprehending the specific metrics and parameters tracked by the HMIS.

14th MAY 2024 - ✓ Data analysis of all the blocks of Haridwar district:

- worked on the following metrics-

  Profile of health facilities, Profile of delivery points and profile of ANC footfall

- further categorising blocks where delivery points are functioning with detailed description about the type of facility and their names. Also mentioning the no. of deliveries at each facility.

15th MAY 2024 - ✓ working on formation of Google forms for detecting Status of Anaemia in US Nagar district of Uttarakhand.

✓ understanding the metrics to be taken and the importance of google forms for surveys.

16th MAY 2024 – ✓ continuation of previous project of all the blocks of Haridwar District- Further worked in determining the Type of deliveries- night (excluding C-section), C-section, night C-Section and the no. of women who stayed at the facilities 48 hrs after delivery.

✓Comparing it with last year's data-

For the years 23-24, 22-23, 21-22.

✓ To see where deliveries are less or differences between the deliveries at each facility in consecutive years.

17th MAY 2024 – ✓ Worked on the PIP and ROP of budget plan of all the districts of Uttarakhand.

✓ continuation of previous project- enlisted the home deliveries by SBA and non-SBA in all the blocks of Haridwar.

✓ also enlisted the total institutional deliveries in all the blocks of Haridwar.

18th MAY 2024 - ✓ Refining the data collected for better understanding.

✓ comparison between last three consecutive years.

Activity Done	Gathering comprehensive knowledge about the HMIS software and its application. Gaining practical understanding and identifying as well as comprehending the specific metrics and parameters tracked by HMIS. Data analysis of Haridwar district- profile of health facilities, delivery points, ANC footfall, types of deliveries and comparing it with last two years data. Analysing home deliveries by SBA and non SBA as well.
Linking theory (Classroom learning) with practice at your organisation	Practical knowledge about the structure and content of HMIS software. Analysing the data recorded by it to understand its structure and content.
Gaps identified on the working area.	Still working on the project. Gaps yet to identify.
Suggestions for improvement	Not yet.

Plan for the next week.	Continuation of the project.

WEEKLY REPORT (3)

Name of the Organisation: National Health Mission (NHM), UTTARAKHAND

Area/ Department/ Project of Summer Internship Program: Maternal and Child Health (MCH)

Name of the Student: AISHWARYA PUNDIR

Roll no: 1668 **Stream:** MBA HM-28

Week no: 3 **From:** 20 MAY 2024 to 25 MAY 2024

20th MAY 2024- Discussion about the new project to detect anemia amongst women of reproductive age groups 20-49 years who are non-pregnant and non-lactating with special focus on the age groups 20-30.

21st MAY 2024- Commencement of this project for Udham Singh Nagar district.

- ✓ Worked on formulation of google form.
- ✓ Learnt about the metrics to be used and the purpose behind it.
- ✓ Formulation of SOP for the same.
- ✓ Formulation of physical forms as an alternative for the online ones.
- ✓ Gained insights about the working and importance of these online applications for data collection.

22nd MAY 2024- Worked the same for another district- Chamoli.

23rd MAY 2024- ****HOLIDAY****

24th MAY 2024- Continuation of previous project for another districts:

- ✓ worked on the following metrics-

Profile of health facilities and Profile of delivery points.

- ✓ further categorising blocks where delivery points are functioning with detailed description about the type of facility and their names. Also mentioning the no. of deliveries at each facility.
- ✓ C-section deliveries at those points. Night C-section Deliveries done.
- ✓ Total home deliveries at all blocks of those districts and further categorising them based on deliveries done by SBA and non-SBA.

25th MAY 2024- Discussion about other indicators to be included in the project and its commencement from hereon.

Activity Done	Continuation of previous project: identification of gaps in the number of deliveries in Haridwar when comparing data from the last two years. Working on project for detecting anemia cases in women of reproductive ages (20-49 years) with special focus on women of age group 20-30 years in two districts of Uttarakhand namely – Udham Singh Nagar and Chamoli. Gained knowledge about the basic methodology to be used, metrics to be included, importance of using google forms for data collection, formulation of google forms with varied features and questions being asked. Worked on formulation of SOP for the concerned project – what needs to be included, various factors, human infrastructure needed, equipment to be used, suggestive places to be included etc. Gained idea about how the physical forms need to be formed as an alternative for online ones.
Linking theory (Classroom learning) with practice at your organisation	Acknowledging the problem which was studied theoretically before.
Gaps identified on the working area.	Decrease in number of deliveries in Haridwar as compared to last year's data record in HMIS.

Suggestions for improvement	Not yet. Still working on the methodologies to identify the causes.
Plan for the next week.	Continuation of the previous project for another districts. Inclusion of JSSK indicators for Haridwar districts for the year 23-24. Comparison of free pickup and drop back data from HMIS and data collected physically.

WEEKLY REPORT (4)

Name of the Organisation: National Health Mission (NHM), UTTARAKHAND

Area/ Department/ Project of Summer Internship Program: Maternal and Child Health (MCH)

Name of the Student: AISHWARYA PUNDIR

Roll no: 1668 **Stream:** MBA HM-28

Week no: 4 **From:** 27 MAY 2024 to 1 JUNE 2024

27th MAY 2024- Working on JSSK indicators. Refining the data collected. Adding more parameters and identifying the problem at the root level.

28th MAY 2024- Continuation of the same for public registrations.

29th MAY 2024- Formulation of questionnaires for field visit.

30th MAY 2024- Working on previous project of delivery points for other districts.

31st MAY 2024- Working on previous project of delivery points for other remaining districts.

1st JUNE 2024- finalisation of questionnaires for field visit.

Activity Done	Finalising the JSSK indicators spreadsheet. Continuing the previous project of delivery points for other districts. Questionnaires formulation and finalisation for field visit.
Linking theory (Classroom learning) with practice at your organisation	Gaining knowledge about the JSSK indicators and how there are actually issues about each parameter in each district. Analysing those particular issues in whichever district present.
Gaps identified on the working area.	Identification of gaps in the HMIS data and physical data provided on data analysis.
Suggestions for improvement	Conduction of meetings for the hospital managers to identify the cause and ask them to update the software accordingly.
Plan for the next week.	Continuation of previous project. Field visit for practical knowledge about JSSK indicators.

WEEKLY REPORT (5)

Name of the Organisation: National Health Mission (NHM), UTTARAKHAND

Area/ Department/ Project of Summer Internship Program: Maternal and Child Health (MCH)

Name of the Student: AISHWARYA PUNDIR

Roll no: 1668 **Stream:** MBA HM-28

Week no: 5 **From:** 3rd June 2024 to 8th JUNE 2024

3rd June to 8th June- Conduction of state meeting with the DPM's, CHO of all the districts regarding maternal health services provided by them. A special session with the DPM's and CHO of Udham Singh Nagar and Chamoli for their orientation of Anemia screening project and asking them for their micro plan for their respective blocks.

Activity Done	Participated in the state meeting with DPM's, CHO of all the districts regarding maternal health services provided by them. Meeting with the DPM's of Udham Singh Nagar and Chamoli for their orientation of anemia project asking them their micro plan for their respective blocks and to start the survey as soon as possible and to cover the entire population by the end of this month.
Linking theory (Classroom learning) with practice at your organisation	Understanding the handling process of services being provided by all districts. How to effectively handle the meting with the project managers of various districts.
Gaps identified on the working area.	Increase in diet consumptions or decrease in various indicators under JSSK.
Suggestions for improvement	Keep interrogating the DPM's and CHO about these issues and asking them to update the data accordingly.
Plan for the next week.	Data analysis of the anemia survey being conducted and identifying various gaps, handling procedures etc. and correcting the process as and when needed.

WEEKLY REPORT (6)

Name of the Organisation: National Health Mission (NHM), UTTARAKHAND

Area/ Department/ Project of Summer Internship Program: Maternal and Child Health (MCH)

Name of the Student: AISHWARYA PUNDIR

Roll no: 1668 **Stream:** MBA HM-28

Week no: 6 **From:** 10th June 2024 to 15th JUNE 2024

10th June 24 to 15tH June 24- Participated in State's meeting with the CMO and other healthcare professionals of Haridwar district discussing about the maternal health services being provided by them due to its poor performance in the year 23-24.

Data analysis and monitoring of the anemia survey project being done on daily basis. Providing daily reports to the DPMU's for their review and necessary improvements.

Activity Done	Participated in the state meeting with with the CMO and other healthcare professionals of Haridwar district discussing about the maternal health services being provided by them due to its poor performance in the year 23-24. Data analysis and monitoring of the anemia survey project.
Linking theory (Classroom learning) with practice at your organisation	How to effectively handle the meeting concerning sensitive issues. Data analysis and monitoring techniques and continuously keeping them updated and addressing the queries as and when required.
Gaps identified on the working area.	People facing issues filling google forms or filling them on the next day creating chaos about the cases being monitored on the same day.
Suggestions for improvement	Introduction of date column so even if they fill the data on next day we can get the exact date of test being done.

Plan for the next week.	Continuation of the Anemia Survey project.

WEEKLY REPORT (7)

Name of the Organisation: National Health Mission (NHM), UTTARAKHAND

Area/ Department/ Project of Summer Internship Program: Maternal and Child Health (MCH)

Name of the Student: AISHWARYA PUNDIR

Roll no: 1668 **Stream:** MBA HM-28

Week no: 7 **From:** 17th June 2024 to 22nd JUNE 2024

17th June to 22nd June- Data analysis and monitoring of the anemia survey project being done daily. Providing daily reports to the DPMU's for their review and necessary improvements.

Review meeting with the districts for effective implementation of the project and addressing their queries regarding any issues faced.

Activity Done	Data analysis and monitoring of the anemia survey project.
Linking theory (Classroom learning) with practice at your organisation	Data analysis and monitoring requirements and ways to handle the queries of concerning people as and when needed.
Gaps identified on the working area.	Improper or incorrect use of Hemoglobinometers in some areas.

Suggestions for improvement	Orientation of people for addressing their queries and training them.
Plan for the next week.	Continuation of the Anemia Survey project.

WEEKLY REPORT (8)

Name of the Organisation: National Health Mission (NHM), UTTARAKHAND

Area/ Department/ Project of Summer Internship Program: Maternal and Child Health (MCH)

Name of the Student: AISHWARYA PUNDIR

Roll no: 1668 **Stream:** MBA HM-28

Week no: 8 **From:** 24th June 2024 to 29th June 2024

24th June to 29th June- Data analysis and monitoring of the anemia survey project being done daily. Providing daily reports to the DPMU's for their review and necessary improvements.

Field visit to the district hospital. Talking with the healthcare providers and the beneficiaries about the maternal health services being provided to the beneficiaries.

Activity Done	Data analysis and monitoring of the anemia survey project. Field visit to the district hospital.

Linking theory (Classroom learning) with practice at your organisation	Practical exposure to the ground reality of the hospital about the maternal health services being delivered to the beneficiaries.
Gaps identified on the working area.	Fake entries being done in the google forms.
Suggestions for improvement	Identifying the areas of discrepancy and conducting a meeting with them regarding the same.
Plan for the next week.	Continuation of the Anemia Survey project. Preparation of the final report of the projects being done.

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CONTENTS

ACKNOWLEDGEMENT

I would like to express my profound gratitude to everyone who contributed to the successful completion of this report.

First and foremost, I would like to extend my heartfelt gratitude to **Swati S. Bhadauria** (I.A.S) Mission Director NHM for giving me the opportunity to work in the Maternal and Child Health (MCH) department of the National Health Mission (NHM). The experience has been incredibly enriching and has significantly contributed to my professional growth.

I would like to thank the Maternal and Child Health (MCH) department of the National Health Mission (NHM) for providing me with the opportunity to undertake these projects. Their invaluable support and resources have been instrumental in my learning and development.

My sincere thanks to **Dr. Uma Rawat**, Officer In charge MCH (NHM) who helped me immensely throughout the tenure of my summer internship. She rendered her valuable advice, precious time, knowledge, and relevant information which enabled me to overcome every obstacle which came my way in the completion of these projects.

I am grateful to **Dr. Nitin Arora**, Senior Consultant MH (NHM) whose expertise, patience, and willingness to mentor me throughout the projects have significantly contributed to my professional growth and learning. I deeply appreciate the time he took to explain complex concepts, provide constructive feedback, and share his extensive knowledge and experience with me.

I would also like to thank the extended team of MCH (NHM) for their unlisted encouragement and their timely support and guidance till the completion of my project. Their active participation in all my questions and queries during my internship has made this journey a true success.

Further, I would like to express my sincere gratitude to the district teams for their timely cooperation and to the survey beneficiaries for their considerate participation.

I would also like to acknowledge my faculty mentor **Dr. Kunal Rawal**, Associate Professor (IIHMR) for enriching this project with his advice and suggestions.

I am also grateful to my colleagues for their support which made this experience enriching and enjoyable. Their diverse perspectives and knowledge greatly contributed to my understanding of the subject.
Lastly, I would like to thank my family and friends for their unwavering support and encouragement throughout this journey. Their belief in me has been a source of constant motivation.

Thank you all.

LIST OF TABLES

LIST OF APPENDICES

ACRONYMS / ABBREVIATIONS

NHM- National Health Mission

NRHM- National Rural Health Mission

NUHM- National Urban Health Mission

MoHFW- Ministry of Health and Family Welfare

HR- Human Resources

MCH- Maternal and Child Health

JSSK- Janani Shishu Suraksha Karyakaram

ANC- Ante Natal Care

PNC- Post Natal Care

JSY- Janani Suraksha Yojana

DH- District Hospital

SDH- Sub District Hospital

CHC- Community Health Centre

Hb- Hemoglobin

Section I
Overview of the Organisation

ABOUT THE ORGANISATION

National Health Mission (NHM) Uttarakhand

The National Health Mission (NHM) was launched by the Government of India in 2013, consolidating the National Rural Health Mission (NRHM) and the National Urban Health Mission (NUHM). The mission aims to provide accessible, affordable, and quality healthcare to the rural and urban populations, especially the vulnerable groups. NHM Uttarakhand, a key part of this initiative, focuses on enhancing healthcare infrastructure and services in the state, addressing the unique health challenges of the region.

Uttarakhand, with its diverse geography and population, faces significant healthcare delivery challenges. The state's health mission emphasizes strengthening the healthcare system through capacity building, infrastructure development, and effective implementation of health programs. Key areas of focus include maternal and child health, disease control programs, immunization, and health system strengthening.

NHM Uttarakhand works through a decentralized approach, involving community participation and promoting health awareness at the grassroots level. The mission collaborates with various stakeholders, including government agencies, non-governmental organizations, and private sector partners, to achieve its objectives.

Overall, NHM Uttarakhand is dedicated to improving health outcomes by ensuring equitable access to quality healthcare services, thus contributing to the overall well-being and development of the state's population.

Vision of NHM Uttarakhand

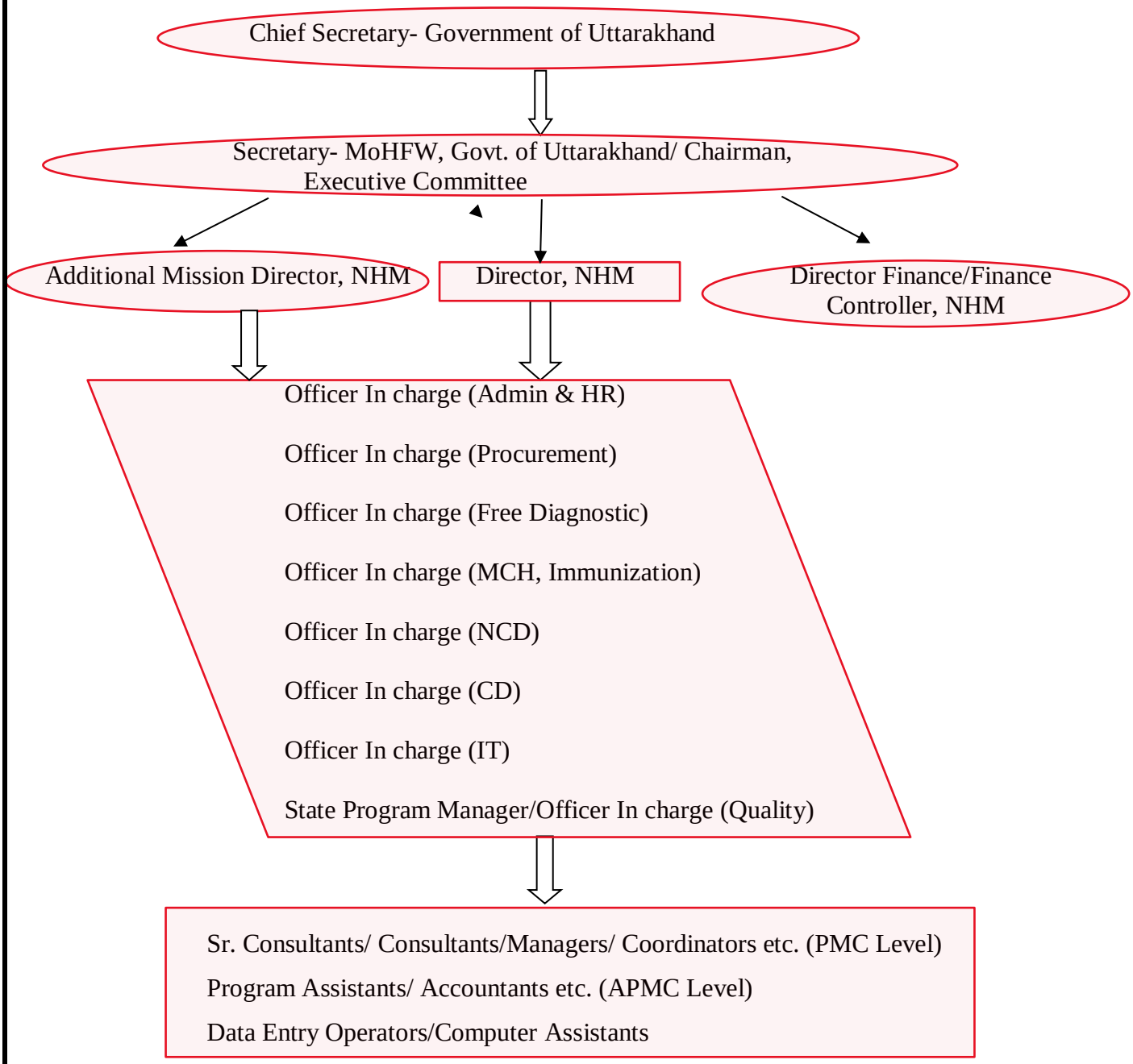
The vision of the National Health Mission Uttarakhand is to achieve universal access to equitable, affordable, and quality healthcare services that are accountable and responsive to the needs of the people, with a special focus on vulnerable and marginalized sections of the society.

Mission of NHM Uttarakhand

1. **Reduce Maternal and Infant Mortality Rates**: To significantly decrease maternal and infant mortality rates by ensuring timely and adequate access to maternal and child health services.
2. **Enhance Public Health Infrastructure**: To strengthen the healthcare infrastructure at all levels, ensuring availability of necessary medical facilities, equipment, and trained personnel.
3. **Promote Preventive and Promotive Health**: To encourage health promotion and disease prevention activities, including immunization, nutrition, and sanitation, to reduce the burden of communicable and non-communicable diseases.
4. **Ensure Universal Health Coverage**: To provide comprehensive healthcare services to all citizens, focusing on the inclusion of vulnerable and marginalized populations.
5. **Strengthen Health Systems**: To build robust health systems through capacity building, effective governance, and enhanced community participation.
6. **Integrated Healthcare Delivery**: To integrate various healthcare services, ensuring continuity of care and a seamless experience for patients.
7. **Enhance Health Awareness**: To raise health awareness and promote healthy lifestyles through community

engagement and educational initiatives.

ORGANOGRAM OF NHM UTTARAKHAND



Section II

Project 1:
Comprehensive Maternal Health Assessment in Uttarakhand: Delivery Status and JSSK indicators

Chapter 1- Introduction

The Maternal and Child Health (MCH) department under the National Health Mission (NHM) in Uttarakhand plays a pivotal role in addressing the healthcare needs of women and children in the state. Established with the goal of reducing maternal and child mortality rates and improving overall health outcomes, the MCH department focuses on a range of interventions that cater to the specific health challenges faced by these vulnerable populations.

Uttarakhand, with its diverse geographical and socio-economic landscape, presents unique healthcare challenges. The state's MCH initiatives are designed to ensure equitable access to quality healthcare services, particularly in remote and underserved areas. These initiatives encompass antenatal care, safe delivery practices, postnatal care, immunization, nutrition, and the management of common childhood illnesses.

Through strategic planning, robust implementation, and continuous monitoring, the MCH department strives to enhance the health and well-being of mothers and children. Collaborations with various stakeholders, including government agencies, non-governmental organizations, and community health workers, are integral to the success of these programs.

This report provides an in-depth analysis of various aspects of these services based on data from the Health Management Information System (HMIS) and physical surveys.

Chapter 2- Review of Literature

1.Maternal Mortality and Morbidity

Jha et al. (2018) provide an extensive analysis of maternal mortality trends in India, highlighting that the maternal mortality ratio (MMR) has decreased significantly over the past decades. However, the authors note that regional disparities persist, with higher MMR in states with poorer health infrastructure and lower socio-economic status. They suggest that targeted interventions are necessary to address these inequities.

2.Antenatal and Postnatal Care

According to Gupta et al. (2019), access to antenatal and postnatal care services has improved, but the quality of care varies widely. Their study indicates that while urban areas generally have better healthcare services, rural areas often lack adequate facilities and trained healthcare professionals. The authors argue for strengthening the healthcare delivery system through training programs and better resource allocation.

3.Nutrition and Maternal Health

Patel and Desai (2020) explore the relationship between maternal nutrition and health outcomes. They emphasize that malnutrition remains a critical issue affecting maternal health, contributing to complications such as anemia, preterm birth, and low birth weight. The authors recommend comprehensive nutritional programs that include education, supplementation, and food security measures to improve maternal nutrition.

4.Policy Interventions and Impact

Rao et al. (2021) reviews the impact of various policy interventions such as the Janani Suraksha Yojana (JSY) and the Pradhan Mantri Matru Vandana Yojana (PMMVY). They find that these schemes have increased

institutional deliveries and provided financial support to pregnant women, leading to better health outcomes. However, the authors also point out gaps in the implementation and coverage of these programs, suggesting the need for more inclusive and efficient policy execution.

5.Role of Community Health Workers

Kumar and Singh (2022) highlight the pivotal role of community health workers (CHWs) in improving maternal health. Their study shows that CHWs facilitate access to healthcare services, promote health education, and ensure adherence to antenatal care schedules. The authors propose that enhancing the training and support for CHWs could further improve maternal health outcomes.

Chapter 3- Aims and Objectives

Aim

The aim of this report is to assess the number and functionality of delivery points in each block of the 13 districts of Uttarakhand and to analyze trends in institutional deliveries. It seeks to interpret maternal health services delivery data to identify trends, gaps, and areas for improvement. The report aims to provide actionable recommendations for enhancing these services, which will guide policy decisions, resource allocation, and targeted interventions to improve maternal and child health outcomes across the state.

Objectives

A. To determine the number of healthcare facilities in each block of the 13 districts.

- To evaluate the functionality of the delivery points, present in these districts.
- To analyze trends in institutional deliveries over the past three years.
- To analyze trends in night deliveries and 48-hour stays.
- To compare C-section and night C-section deliveries over the past three years.
- To compare home deliveries by Skilled Birth Attendants (SBA) and non-SBA, as well as rural and urban home deliveries over the past three years.

B. To analyze the key indicators of the Janani Shishu Suraksha Karyakram (JSSK) program to assess its effectiveness in improving maternal and child health outcomes.

- To compare online Health Management Information System (HMIS) data with physical data from 108 and 102 ambulance services for free pickup and drop back.
- To rank districts based on their performance in JSSK indicators.

C. To assess the awareness and utilization of maternal health services/schemes among beneficiaries at different levels of healthcare.

Chapter 4- Research Questions

1. Delivery Point Distribution and Functionality
   - How many health facilities are present across Uttarakhand?

- What proportion of these delivery points are functional?

2. Service Utilization

- What are the trends in night deliveries and 48-hour stays across the state?
- How do C-section and night C-section deliveries compare over the past three years?

3. Institutional Delivery Trends

- What are the trends in total public institutional deliveries over the past three years?
- How have institutional deliveries evolved over the past three years?

4. Home Delivery Practices

- What is the comparison of home deliveries by SBA and non-SBA over the past three years?
- How do rural and urban home deliveries compare over the past three years?

5. JSSK indicators

-What are the discrepancies between the online HMIS data and physical records for free pickup and drop back services under JSSK?

- How do districts rank based on their performance in JSSK indicators?

6. Maternal Health Services Awareness and Utilization

- What is the level of awareness, knowledge, and utilization of maternal health services among beneficiaries at various levels of healthcare?
- What barriers do beneficiaries face in accessing maternal health services?
- What strategies can be implemented to address the identified gaps and improve the delivery and utilization of maternal health services?

Chapter 5- Methodology

A. Delivery points

-Data was collected from the HMIS software: The data was analyzed to count the healthcare facilities, count the delivery points and assess their functionality, and examine various delivery-related trends and comparisons.

B. JSSK indicators

- Collected data from HMIS and physical records from ambulance services for JSSK indicators.
- Conducted comparative analysis for free pickup and drop back services.
- Analyzed other indicators based on HMIS data.
- Ranked districts based on their performance.
- Conducted meetings with district officials to discuss disparities.

C. Maternal Health Services Awareness and Utilization

- Conducted structured interviews with 30 beneficiaries.
- Questions focused on awareness, knowledge, and usage of maternal health services.

-**Study Area**: DH Dehradun, SDH Rishikesh, SDH Prem Nagar, CHC Raipur

-**Study Design**: Correlational Study

-**Study Population**: The study was conducted amongst pregnant women, their attendant/ Family members. General information gathered from the healthcare professionals about the maternal health services being given in the respective facilities.

-**Sample Size**: 30 Beneficiaries

-**Data Collection**:

Data will be collected using self-administered questionnaires being asked to them orally after their consent. Participation in the study was voluntary and anonymity and confidentiality of responses was ensured.

Figure 1 SDH PREMNAGAR

Interaction with the beneficiary regarding maternal health services being received by them

Figure 2 SDH RISHIKESH

Interaction with the beneficiary regarding maternal health services being received by them

Figure 3 DH DEHRADUN

Interaction with the beneficiary

Interaction with the nursing in charge

Figure 4 CHC RAIPUR

Interaction with the nursing team and the doctor

Chapter 6- Observations and Analysis

A) Delivery points

1. Number of Blocks and Health Facilities

The analysis identified the number of blocks in each district and number of health facilities in all blocks of the 13 districts in the **FY 2023-2024** as follows:

DISTRICTS	Number of Blocks	Number of Health Facilities
Almora	11	283
Bageshwar	3	122
Chamoli	9	162
Champawat	4	87
Dehradun	6	427
Haridwar	6	213
Nainital	8	169
Pauri Garhwal	15	334
Pithoragarh	8	223
Rudraprayag	3	116
Tehri Garhwal	9	279
Udham Singh Nagar	7	207
Uttarkashi	6	124
Total	**95**	**2746**

1.1 Number of Blocks and Health Facilities of FY 2023-2024

2. Functional Delivery Points

Out of the health facilities identified for **FY 2023-2024**, a subset was found to be functional. The functionality was assessed based on criteria such as availability of skilled birth attendants, necessary medical equipment, and infrastructure.

DISTRICTS	Number of Health Facilities	Functional Delivery Points
Almora	283	36
Bageshwar	122	5
Chamoli	162	13
Champawat	87	9
Dehradun	427	23
Haridwar	213	17
Nainital	169	24
Pauri Garhwal	334	26
Pithoragarh	223	17
Rudraprayag	116	7
Tehri Garhwal	279	30
Udham Singh Nagar	207	32
Uttarkashi	124	11
Total	**2746**	**250**

1.2 Functional Delivery Points of FY 2023-2024

3. Trends in Institutional Deliveries

The trend analysis of institutional deliveries over the **past three FY** indicated:

- An overall increase/decrease in the number of institutional deliveries.

- Specific districts showing significant improvement or decline.

- Seasonal or event-based fluctuations in delivery numbers.

Total Public Institutional Deliveries					
DISTRICTS	**2023-2024**	**2022-2023**	**2021-2022**	**% change 23-24 & 22-23**	**% change 22-23 & 21-22**
Almora	4278	4349	5003	**-1.7%**	**-15.0%**
Bageshwar	2135	2491	2910	**-16.7%**	**-16.8%**
Chamoli	2684	2782	3221	**-3.7%**	**-15.8%**
Champawat	1599	1880	2425	**-17.6%**	**-29.0%**
Dehradun	17316	17169	14201	0.8%	17.3%
Haridwar	11879	11177	11528	5.9%	**-3.1%**
Nainital	13352	13184	12641	1.3%	4.1%
Pauri Garhwal	6379	2990	7736	53.1%	**-158.7%**
Pithoragarh	3868	4003	4748	**-3.5%**	**-18.6%**
Rudraprayag	2470	1787	2384	27.7%	**-33.4%**
Tehri Garhwal	3364	3811	5457	**-13.3%**	**-43.2%**
Udham Singh Nagar	14804	16264	14362	**-9.9%**	11.7%
Uttarkashi	3528	3393	3942	3.8%	**-16.2%**
Total	**87656**	**85280**	**90558**	**2.7%**	**-6.2%**

1.3 Trends in Public Institutional Deliveries for past three FY

[Note: % change 23-24 & 22-23 is calculated using the formula= (Pub. Inst. Deli. 23-24 - Pub. Inst. Deli. 22-23) / Pub. Inst. Deli. 23-24 *100]
[Note: % change 22-23 & 21-22 is calculated using the formula= (Pub. Inst. Deli. 22-23 - Pub. Inst. Deli. 21-22) / Pub. Inst. Deli. 22-23 *100]

4. Night Deliveries and 48-hour Stays

Analysis of night deliveries and 48-hour stays for the **FY 2023-2024** across all districts of Uttarakhand.

DISTRICTS	Public Institutional Deliveries	Night Deliveries	In %
Almora	4278	817	19.1%
Bageshwar	2135	280	13.1%
Chamoli	2684	641	23.9%
Champawat	1599	377	23.6%
Dehradun	17316	5449	31.5%
Haridwar	11879	2689	22.6%
Nainital	13352	2165	16.2%
Pauri Garhwal	6379	1515	23.7%
Pithoragarh	3868	911	23.6%
Rudraprayag	2470	139	5.6%
Tehri Garhwal	3364	1146	34.1%
Udham Singh Nagar	14804	6161	41.6%
Uttarkashi	3528	1006	28.5%
Total	**87656**	**23296**	**26.6%**

1.4 Night Deliveries for FY 2023-2024

[Note: % is calculated using the formula = Night Deliveries / Public Institutional Deliveries *100]

DISTRICTS	Public Institutional Deliveries	48 Hrs Stay	In %
Almora	4278	1530	35.8%
Bageshwar	2135	1739	81.5%
Chamoli	2684	1075	40.1%
Champawat	1599	800	50.0%
Dehradun	17316	12927	74.7%
Haridwar	11879	5200	43.8%
Nainital	13352	4003	30.0%
Pauri Garhwal	6379	3811	59.7%
Pithoragarh	3868	2209	57.1%
Rudraprayag	2470	983	39.8%
Tehri Garhwal	3364	1186	35.3%
Udham Singh Nagar	14804	8111	54.8%
Uttarkashi	3528	3436	97.4%
Total	**87656**	**47010**	**53.6%**

1.5 48-hour Stays after delivery at Public Institutions for FY 2023-2024

[Note: % is calculated using the formula = no. of 48 hrs. stay after delivery / public institutional deliveries *100]

5. C-section and Night C-section Comparison

Comparison of C-section and night C-section deliveries of the **past three FY** across all districts of Uttarakhand.

C-section (Public Institutional Deliveries)					
DISTRICTS	**2023-2024**	**2022-2023**	**2021-2022**	**% change 23-24 & 22-23**	**% change 22-23 & 21-22**
Almora	633	596	483	5.8%	19.0%
Bageshwar	170	293	291	**-72.4%**	0.7%
Chamoli	190	149	171	21.6%	**-14.8%**
Champawat	147	111	155	24.5%	**-39.6%**
Dehradun	4489	4290	3146	4.4%	26.7%
Haridwar	1575	1730	1601	**-9.8%**	7.5%
Nainital	4051	3921	3381	3.2%	13.8%
Pauri Garhwal	2005	1978	1927	1.3%	2.6%
Pithoragarh	836	779	782	6.8%	**-0.4%**
Rudraprayag	276	41	113	85.1%	**-175.6%**
Tehri Garhwal	106	186	298	**-75.5%**	**-60.2%**
Udham Singh Nagar	975	1366	1146	**-40.1%**	16.1%
Uttarkashi	72	32	79	55.6%	**-146.9%**
Total	**15525**	**15472**	**13573**	**0.3%**	**12.3%**

1.6 C-section Comparison of past three FY

[Note: % change 23-24 & 22-23 is calculated using the formula= (C-section 23-24 – C-section 22-23) / C-section 23-24 *100]
[Note: % change 22-23 & 21-22 is calculated using the formula= (Pub. Inst. Deli. 22-23 - Pub. Inst. Deli. 21-22) / Pub. Inst. Deli. 22-23 *100]

Night C-section (Public Institutional Deliveries)						
DISTRICTS	2023-2024		2022-2023		2021-2022	
	Nos.	%	Nos.	%	Nos.	%
Almora	124	19.6%	131	22.0%	90	18.6%
Bageshwar	17	10.0%	18	6.1%	19	6.5%
Chamoli	50	26.3%	40	26.8%	34	19.9%
Champawat	18	12.2%	6	5.4%	41	26.5%
Dehradun	347	7.7%	786	18.3%	461	14.7%
Haridwar	36	2.3%	38	2.2%	67	4.2%
Nainital	549	13.6%	352	9.0%	507	15.0%
Pauri Garhwal	443	22.1%	297	15.0%	336	17.4%
Pithoragarh	175	20.9%	104	13.4%	82	10.5%
Rudraprayag	44	15.9%	3	7.3%	12	10.6%
Tehri Garhwal	29	27.4%	41	22.0%	37	12.4%
Udham Singh Nagar	56	5.7%	134	9.8%	193	16.8%
Uttarkashi	12	16.7%	2	6.3%	7	8.9%
Total	**1900**	**12.2%**	**1952**	**12.6%**	**1886**	**13.9%**

1.7 Night C-section Comparison for past three FY
[Note: % is calculated using the formula= night C-section in the given FY / C-section in the given FY *100]

6. Home Deliveries by SBA and Non-SBA

Total home deliveries in all the districts of Uttarakhand of past three FY:

Total Home Deliveries					
DISTRICTS	2023-2024	2022-2023	2021-2022	% change 23-24 & 22-23	% change 22-23 & 21-22
Almora	213	364	723	-70.9%	-98.6%
Bageshwar	223	322	613	-44.4%	-90.4%
Chamoli	643	736	1211	-14.5%	-64.5%
Champawat	366	367	632	-0.3%	-72.2%
Dehradun	527	1243	1590	-135.9%	-27.9%
Haridwar	2536	3998	5159	-57.6%	-29.0%
Nainital	512	912	1213	-78.1%	-33.0%
Pauri Garhwal	465	636	1019	-36.8%	-60.2%
Pithoragarh	366	550	885	-50.3%	-60.9%
Rudraprayag	49	76	147	-55.1%	-93.4%
Tehri Garhwal	448	849	1440	-89.5%	-69.6%
Udham Singh Nagar	923	1172	1641	-27.0%	-40.0%
Uttarkashi	570	598	879	-4.9%	-47.0%
Total	**7841**	**11823**	**17152**	**-50.8%**	**-45.1%**

1.8 Total home deliveries in all the districts of Uttarakhand for past three FY

[Note: % change 23-24 & 22-23 is calculated using the formula= (Home Deli. 23-24 - Home Deli. 22-23) /

Home Deli. 23-24 *100]

[Note: % change 22-23 & 21-22 is calculated using the formula= (Home Deli. 22-23- Home Deli. 21-22) / Home Deli. 22-23 *100]

Comparison of home deliveries by SBA and non-SBA, and rural and urban home deliveries over the past three FY across all districts of Uttarakhand.

Home Deliveries by SBA and Non-SBA:

Home Deliveries by SBA						
DISTRICTS	2023-2024		2022-2023		2021-2022	
	Nos.	%	Nos.	%	Nos.	%
Almora	134	62.9%	223	61.3%	441	61.0%
Bageshwar	91	40.8%	166	51.6%	283	46.2%
Chamoli	438	68.1%	463	62.9%	721	59.5%
Champawat	49	13.4%	37	10.1%	47	7.4%
Dehradun	6	1.1%	30	2.4%	72	4.5%
Haridwar	424	16.7%	911	22.8%	438	8.5%
Nainital	329	64.3%	521	57.1%	635	52.3%
Pauri Garhwal	75	16.1%	238	37.4%	251	24.6%
Pithoragarh	90	24.6%	241	43.8%	464	52.4%
Rudraprayag	3	6.1%	46	60.5%	126	85.7%
Tehri Garhwal	51	11.4%	67	7.9%	147	10.2%
Udham Singh Nagar	601	65.1%	982	83.8%	1176	71.7%
Uttarkashi	20	3.5%	13	2.2%	2	0.2%
Total	**2311**	**29.5%**	**3938**	**33.3%**	**4803**	**28.0%**

1.9 Home Deliveries by SBA for past three FY

[Note: % is calculated using the formula= Home Deliveries by SBA in the given FY / Total Home Deliveries *100]

Home Deliveries by non-SBA						
DISTRICTS	2023-2024		2022-2023		2021-2022	
	Nos.	%	Nos.	%	Nos.	%
Almora	79	37.1%	141	38.7%	282	39.0%
Bageshwar	132	59.2%	156	48.4%	330	53.8%
Chamoli	205	31.9%	273	37.1%	490	40.5%
Champawat	317	86.6%	330	89.9%	585	92.6%
Dehradun	521	98.9%	1213	97.6%	1518	95.5%
Haridwar	2112	83.3%	3087	77.2%	4721	91.5%
Nainital	183	35.7%	391	42.9%	578	47.7%
Pauri Garhwal	390	83.9%	398	62.6%	768	75.4%
Pithoragarh	276	75.4%	309	56.2%	421	47.6%
Rudraprayag	46	93.9%	30	39.5%	21	14.3%
Tehri Garhwal	397	88.6%	782	92.1%	1293	89.8%
Udham Singh Nagar	322	34.9%	190	16.2%	465	28.3%
Uttarkashi	550	96.5%	585	97.8%	877	99.8%
Total	**5530**	**70.5%**	**7885**	**66.7%**	**12349**	**72.0%**

2.0 Home Deliveries by non-SBA for past three FY

[Note: % is calculated using the formula= Home Deliveries by non-SBA in the given FY / Total Home Deliveries *100]

B) JSSK indicators

Districts	ANC Registration (Public+Private)	Public Institutional Deliveries	Sub centre Deliveries	Public Institutional Deliveries (Excluding SCs)	Total JSSK Beneficiaries	Free Medicines			Free Diagnostics		
	Nos.	Nos.	Nos.	Nos.	Nos.	Nos.	%	Rank	Nos.	%	Rank
	A	B	C	D=B-C		E	F=E/A*100		G	H=G/A*100	
Almora	6250	4033	63	3970	6839	7385	118.2%	6	5995	95.9%	9
Bageshwar	2893	2135	1	2134	3675	3180	109.9%	8	3174	109.7%	6
Chamoli	5117	2684	8	2676	4188	4233	82.7%	11	4632	90.5%	10
Champawat	3650	1599	108	1491	4288	4344	119.0%	5	2158	59.1%	12
Dehradun	40016	17316	540	16776	85948	71747	179.3%	1	111825	279.5%	1
Haridwar	44653	11880	43	11837	67383	47450	106.3%	9	62038	138.9%	3
Nainital	16757	13352	50	13302	16539	16594	99.0%	10	16480	98.3%	8
Pauri	6802	6383	4	6379	4527	7965	117.1%	7	7431	109.2%	7
Pithoragarh	5326	3868	54	3814	3247	3236	60.8%	12	3001	56.3%	13
RudraPrayag	3901	2470	80	2390	6191	4868	124.8%	3	4340	111.3%	4
Tehri	9524	3364	51	3313	11703	11679	122.6%	4	10513	110.4%	5
US Nagar	39900	14804	605	14199	23014	15107	37.9%	13	28881	72.4%	11
Uttar Kashi	5878	3528	0	3528	5021	7675	130.6%	2	15260	259.6%	2
Total	190667	87416	1607	85809	242563	205463	107.8%		275728	144.6%	

2.1a JSSK indicators for total ANC registrations

Districts	Free Diet against Public Institutional Deliveries (Excluding SCs)			Free Diet against Public Institutional Deliveries			Free Home to facility transport			Free Drop Back home			Interfacility transfers	Free Blood transfusion
	Nos.	%	Rank	Nos.	%	Rank	Nos.	%	Rank	Nos.	%	Rank	Nos.	Nos.
	I	J=I/D*100		K	L=K/B*100		M	N=M/B*100		O	P=O/B*100			
Almora	3485	87.8%	11	3485	86.4%	11	882	21.9%	10	2437	60.4%	5	300	55
Bageshwar	2133	100.0%	4	2133	99.9%	3	699	32.7%	7	718	33.6%	12	434	12
Chamoli	2763	103.3%	2	2763	102.9%	2	441	16.4%	11	922	34.4%	11	111	215
Champawat	1440	96.6%	8	1440	90.1%	10	610	38.1%	6	669	41.8%	9	12	21
Dehradun	16100	96.0%	9	16100	93.0%	9	4714	27.2%	8	8363	48.3%	7	1630	696
Haridwar	11190	94.5%	10	11190	94.2%	8	4648	39.1%	4	8359	70.4%	4	1972	856
Nainital	13142	98.8%	7	13142	98.4%	5	2024	15.2%	12	7020	52.6%	6	960	189
Pauri	6304	98.8%	6	6304	98.8%	4	2460	38.5%	5	2477	38.8%	10	503	875
Pithoragarh	3240	85.0%	13	3240	83.8%	13	301	7.8%	13	138	3.6%	13	137	477
RudraPrayag	2374	99.3%	5	2374	96.1%	7	565	22.9%	9	1042	42.2%	8	124	300
Tehri	4879	147.3%	1	4879	145.0%	1	1666	49.5%	1	2884	85.7%	1	1073	180
US Nagar	14328	100.9%	3	14328	96.8%	6	6635	44.8%	2	11442	77.3%	3	675	755
Uttar Kashi	3024	85.7%	12	3024	85.7%	12	1558	44.2%	3	2779	78.8%	2	647	80
Total	84402	98.4%		84402	96.6%		27203	31.1%		49250	56.3%		8578	4711

2.1b JSSK indicators for total ANC registrations

Districts	ANC Registration (Public)	Public Institutional Deliveries	Sub centre Deliveries	Public Institutional Deliveries (Excluding SCs)	Total JSSK Beneficiaries	Free Medicines			Free Diagnostics		
	Nos.	Nos.	Nos.	Nos.	Nos.	Nos.	%	Rank	Nos.	%	Rank
	A	B	C	D=B-C		E	F=E/A*100		G	H=G/A*100	
Almora	5343	4033	63	3970	6839	7385	138.2%	3	5995	112.2%	5
Bageshwar	2893	2135	1	2134	3675	3180	109.9%	8	3174	109.7%	7
Chamoli	5117	2684	8	2676	4188	4233	82.7%	11	4632	90.5%	10
Champawat	3650	1599	108	1491	4288	4344	119.0%	6	2158	59.1%	12
Dehradun	34988	17316	540	16776	85948	71747	205.1%	1	111825	319.6%	1
Haridwar	44644	11880	43	11837	67383	47450	106.3%	9	62038	139.0%	3
Nainital	16757	13352	50	13302	16539	16594	99.0%	10	16480	98.3%	9
Pauri	6802	6383	4	6379	4527	7965	117.1%	7	7431	109.2%	8
Pithoragarh	5326	3868	54	3814	3247	3236	60.8%	12	3001	56.3%	13
RudraPrayag	3279	2470	80	2390	6191	4868	148.5%	2	4340	132.4%	4
Tehri	9524	3364	51	3313	11703	11679	122.6%	5	10513	110.4%	6
US Nagar	39900	14804	605	14199	23014	15107	37.9%	13	28881	72.4%	11
Uttar Kashi	5878	3528	0	3528	5021	7675	130.6%	4	15260	259.6%	2
Total	**184101**	**87416**	**1607**	**85809**	**242563**	**205463**	**111.6%**		**275728**	**149.8%**	

2.2 a JSSK indicators for public ANC registrations

Districts	Free Diet against Public Institutional Deliveries (Excluding SCs)			Free Diet against Public Institutional Deliveries			Free Home to facility transport			Free Drop Back home			Interfacility transfers	Free Blood transfusion
	Nos.	%	Rank	Nos.	%	Rank	Nos.	%	Rank	Nos.	%	Rank	Nos.	Nos.
	I	J=I/D*100		K	L=K/B*100		M	N=M/B*100		O	P=O/B*100			
Almora	3485	87.8%	11	3485	86.4%	11	882	21.9%	10	2437	60.4%	5	300	55
Bageshwar	2133	100.0%	4	2133	99.9%	3	699	32.7%	7	718	33.6%	12	434	12
Chamoli	2763	103.3%	2	2763	102.9%	2	441	16.4%	11	922	34.4%	11	111	215
Champawat	1440	96.6%	8	1440	90.1%	10	610	38.1%	6	669	41.8%	9	12	21
Dehradun	16100	96.0%	9	16100	93.0%	9	4714	27.2%	8	8363	48.3%	7	1630	696
Haridwar	11190	94.5%	10	11190	94.2%	8	4648	39.1%	4	8359	70.4%	4	1972	856
Nainital	13142	98.8%	7	13142	98.4%	5	2024	15.2%	12	7020	52.6%	6	960	189
Pauri	6304	98.8%	6	6304	98.8%	4	2460	38.5%	5	2477	38.8%	10	503	875
Pithoragarh	3240	85.0%	13	3240	83.8%	13	301	7.8%	13	138	3.6%	13	137	477
RudraPrayag	2374	99.3%	5	2374	96.1%	7	565	22.9%	9	1042	42.2%	8	124	300
Tehri	4879	147.3%	1	4879	145.0%	1	1666	49.5%	1	2884	85.7%	1	1073	180
US Nagar	14328	100.9%	3	14328	96.8%	6	6635	44.8%	2	11442	77.3%	3	675	755
Uttar Kashi	3024	85.7%	12	3024	85.7%	12	1558	44.2%	3	2779	78.8%	2	647	80
Total	**84402**	**98.4%**		**84402**	**96.6%**		**27203**	**31.1%**		**49250**	**56.3%**		**8578**	**4711**

2.2b JSSK indicators for public ANC registrations

Free Pickup and Dropback for the FY 23-24										
Districts	Free Home to facility transport (Pick up)						Free Drop Back home			
	By 108	By KKS (102)	Total	As per HMIS	Gap	% of Data not updated in HMIS	By KKS (102)	As per HMIS	Gap	% of Data not updated in HMIS
	Nos.	Nos.	Nos.	Nos.	Nos.	%	Nos.	Nos.	Nos.	%
	A	B	C=A+B	D	E=C-D	F=E/C*100	A	B	C=A-B	D=C/A*100
Almora	1575	20	1595	882	713	44.7%	2360	2437	-77	-3.3%
Bageshwar	1079	4	1083	699	384	35.5%	712	718	-6	-0.8%
Chamoli	1250	9	1259	441	818	65.0%	984	922	62	6.3%
Champawat	1110	2	1112	610	502	45.1%	776	669	107	13.8%
Dehradun	8225	14	8239	4714	3525	42.8%	8997	8363	634	7.0%
Haridwar	10214	4	10218	4648	5570	54.5%	11021	8359	2662	24.2%
Nainital	3258	14	3272	2024	1248	38.1%	7500	7020	480	6.4%
Pauri	1816	16	1832	2460	-628	-34.3%	3598	2477	1121	31.2%
Pithoragarh	2209	8	2217	301	1916	86.4%	2309	138	2171	94.0%
RudraPrayag	884	4	888	565	323	36.4%	1065	1042	23	2.2%
Tehri	2232	4	2236	1666	570	25.5%	2095	2884	-789	-37.7%
US Nagar	8050	33	8083	6635	1448	17.9%	11707	11442	265	2.3%
Uttar Kashi	2500	5	2505	1558	947	37.8%	2709	2779	-70	-2.6%
Total	44402	137	44539	27203	17336	38.9%	55833	49250	6583	11.8%

2.3 Pickup and drop back based on HMIS and Physical data

C) KAP analysis of the maternal health services/schemes

- Awareness: 69.23% of beneficiaries were aware of maternal health services. **(21/30 responses)**

- Knowledge: Only 6.66% could correctly identify the services provided under various maternal health schemes. **(2/30 responses)**

- Usage: 100% reported utilizing at least one maternal health service during their ANC visits. **(30/30 responses)**

- Barriers: Common barriers include lack of knowledge, misinformation, and logistical issues in accessing services.

Chapter 7- Discussion, Challenges & Recommendations

Discussion

The findings provide a detailed overview of the distribution and functionality of delivery points, as well as trends and comparisons in various delivery-related metrics. Key insights include:

- **Functional Delivery Points**: There is a need to enhance the functionality of non-operational delivery points to improve maternal health services.

- **Night Deliveries and 48-hour Stays**: The data on night deliveries and 48-hour stays suggest areas where maternal care can be improved.

- **C-section Trends**: The increase/decrease in C-section deliveries, including night C-sections, indicates changing practices and potential areas for intervention.

- **Institutional Deliveries**: Trends in institutional deliveries show the impact of health policies and public health interventions.
- **Home Deliveries**: The comparison between SBA and non-SBA home deliveries, as well as rural and urban home deliveries, highlights areas for targeted maternal health education and services.

Challenges

- **Data Completeness and Accuracy**

- Incomplete or inaccurate data entries by health workers can lead to unreliable analysis.
- Data might be missing due to underreporting or delays in data submission.

- **Data Standardization**

- Inconsistent data entry formats can make it difficult to aggregate and compare data.

- **Data Integration**

- Difficulty in integrating data from various sources, such as different health facilities or departments, into a unified dataset.

- **Bias and Representativeness**

- Data may be biased due to underreporting from certain regions or demographic groups.

- **Scalability**

- Difficulties in scaling data analysis processes to handle increasing volumes of data as more delivery points are added.
- Ensuring consistent data quality and analytical rigor as the dataset grows.

- **Timeliness**

- Delays in data entry and submission can affect the timeliness of the analysis.

Recommendations

1. **Infrastructure Improvement**: Enhance infrastructure in non-functional delivery points to ensure they are fully operational.
2. **Training and Staffing**: Regular training for birth attendants and adequate staffing are crucial for improving maternal health services.
3. **Public Awareness Campaigns**: Increase awareness about the benefits of institutional deliveries to maintain and improve positive trends.
4. **Resource Allocation**: Use detailed data to allocate resources efficiently, focusing on underserved regions.
5. **Policy Interventions**: Implement policies targeting the identified gaps, such as improving night delivery services and ensuring 48-hour stays.
6. **Increase Awareness**: Conduct targeted awareness campaigns to educate beneficiaries about JSSK services.

7. **Enhance Service Delivery**: Address logistical challenges to improve the availability and quality of services.
8. **Regular Monitoring**: Implement regular monitoring and evaluation to ensure compliance and address any emerging issues promptly.
9. **District-specific Interventions**: Develop tailored interventions for bottom-performing districts to improve their performance.

Chapter 8- Conclusion

This project provided comprehensive insights into the functionality of delivery points and maternal health services across the 13 districts of Uttarakhand. The data analysis revealed significant disparities in the availability and quality of delivery services at different healthcare levels. Key findings highlighted that while some districts exhibited commendable performance in terms of infrastructure and service delivery, others faced challenges such as inadequate staffing, insufficient medical supplies, and lack of proper training among healthcare providers.

Field visits corroborated these findings, showing a direct impact on maternal health outcomes due to these disparities. Primary healthcare centers often struggled to meet the required standards, whereas tertiary centers showed relatively better performance. The study underscores the critical need for targeted interventions to bridge these gaps, ensuring equitable and efficient maternal health services across all districts. It is essential to focus on capacity building, resource allocation, and continuous monitoring to improve the overall effectiveness of maternal healthcare delivery in Uttarakhand.

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Appendices

Appendix A: Questionnaire for KAP analysis of maternal health services

Questionnaire for pregnant women/mothers to assess the Knowledge, Attitude and Practice of Maternal Health Services

Demographic Information

1. Name:
2. Age:
3. Location (Village/City, Block, District):
4. Status:
   - Pregnant
   - Mother
5. LMP:
6. EDD:
7. If delivered, date of delivery:
8. GPLA:

General Awareness

9. Did anyone visit you during your pregnancy?
   - YES, (ASHA/ANM/Others)
   - NO
10. ANC checkup is done by:
    - 1st ANC checkup: ANM/doctors
    - 2nd checkup:
    - 3rd checkup:
    - 4th checkup:
11. Did you experience any of the following signs or symptoms during your pregnancy? **(HRP)**
    -Severe headaches
    -Blurring of vision
    -Severe swelling of hands, feet, or face
    -Breathlessness
    -Pain in upper abdomen
    - Labour pain before term
    -Labour pain for more than 12 hours
    -Reduces fetal movement
    -Excessive bleeding during delivery or after delivery
    -Bursting of water bag without labour pains
    -Reduced urine output
    -pallor
    -high fever

-Other (please specify)

-None of the above

12.Were you given any special advice or care because of these signs or symptoms?

- YES, what?
- NO

13. Did anyone discuss birth planning with you during your pregnancy (such as where you will go for delivery)?

- YES
- NO
- If YES, who discussed birth planning with you?
  - Doctor
  - Nurse
  - ASHA worker
  - Family member
  - Other (please specify)

14.Were you provided with any card?

- Birth Plan Card
- MCP card

15. How often do you refer to the MCP card for health-related information and records?

- Always
- Often
- Sometimes
- Rarely
- Never

16. Did healthcare providers regularly update the MCP card during your visits?

- Yes
- No
- Sometimes

Supplement Intake

17. Are you receiving Iron Folic Acid (IFA) tablets (red color)?

- Yes
- No

18. Are you aware that you should take the IFA tablets daily?

- Yes
- No

19. Do you take the IFA tablets daily as recommended?

- Yes
- No
- Sometimes

20.Did you complete the full course of 180 IFA tablets? **(If delivered)**

-Yes

-No

- Currently in progress

- If you did not complete the course, what were the reasons? (Select all that apply)

- Forgot to take them regularly

- Experienced side effects

- Tablets were not always available

- Did not know the importance of completing the course

- Other (please specify)

21. Do you receive Calcium 360 tablets?

- Yes

- No

22. Are you aware that you should take 2 Calcium tablets daily?

- Yes

- No

23. Do you take the Calcium tablets daily as recommended?

- Yes

- No

- Sometimes

- If you do not take the Calcium tablets daily, what are the reasons? (Select all that apply)

- Forgot to take them regularly

- Experienced side effects

- Tablets were not always available

- Did not know the importance of taking them

- Other (please specify)

Breastfeeding Awareness and Practices

24. Are you aware of the importance of early initiation of breastfeeding (within the first hour after birth)?

- Yes

- No

25. **If delivered**, did you initiate breastfeeding within the first hour after your baby's birth?

- Yes

- No

- If you did not initiate breastfeeding within the first hour, what were the reasons? (Select all that apply)

- Not informed about the importance

- Health complications (mother)

- Health complications (baby)

- Lack of support _____

- Other (please specify)

Others:

26. Did you receive ultrasound services during your pregnancy?

- Yes, no. of ultrasounds done.
- No
- If yes, where did you receive the ultrasound services?
    - Government health facility
    - Private health facility. If you received the ultrasound services at a private health facility, please specify the reasons for choosing a private facility:

        - Government facility was too far
        - Long waiting time at government facility
        - Better quality of service at private facility
        - Recommended by a healthcare provider
        - Previous unsatisfactory experience at government facility
        - Other (please specify)

27. How far is this facility from your home? _____km.

28.Mode of transport used:

- Government vehicle (108 services)
- private vehicle, why?
- self, why?

Knowledge of Health Services

29. Do you know about any helpline services?

- Yes (104/108/Khushiyon ki sawari)
- No

Maternal health Schemes Awareness and Utilization

30.Are you aware of any government schemes for maternal health?

- Yes
- No

-if yes, which? Janani Suraksha Yojana (JSY), Janani Shishu Suraksha Karyakram (JSSK), IJA BOI Shagun Yojana Others (please specify)

31. Are you aware that you are entitled to receive an incentive of Rs 1400 (for rural) or Rs 1000 (for urban) for delivering in a government health facility? (**Janani Suraksha Yojana)**

- Yes
- No

32. Are you aware that you are entitled to receive Rs 2000 for staying at least 48 hours in a government health facility after delivery? **(IJA BOI Shagun Yojana)**

- Yes
- No
- Media (TV/Radio)

- Other (please specify)

33. Did you receive any free services during delivery?

- Free delivery
- Free drugs and consumables
- Free diagnostics
- Free diet during stay in the health institution

(How was the food provided Excellent/Good/Fair/Poor/Very Poor)

- Free provision of blood
- Free transport from home to health institution
- Free transport between health institutions if referred
- Free drop back from health institution to home
- **If not, which items did you have to pay for?**

Satisfaction and Feedback

34. How satisfied were you with the healthcare services provided?

- Very Satisfied
- Satisfied
- Neutral
- Dissatisfied, why?

35. Were there any services or support you needed but did not receive?

- Yes
- No
- If yes, please specify

Appendix B: Permission letter for the survey being done

कार्यालय मिशन निदेशक, राष्ट्रीय स्वास्थ्य मिशन, उत्तराखण्ड

(उत्तराखण्ड स्वास्थ्य एव परिवार कल्याण समिति, स्वास्थ्य एवं परिवार कल्याण विभाग, उत्तराखण्ड शासन)

डाण्डा लखौण्ड, सहस्त्रधारा रोड, देहरादून –248001

ई.मेल:- mdnhmuk@gmail.com फोन / फैक्स 0135-2608646

उत्तराखण्ड शासन

पत्रांक–NHMUK/MH/2024-25/ 714 दिनांक– 29 / 06 / 2024

सेवा में,

मुख्य चिकित्साधिकारी,
जनपद, देहरादून, उत्तराखण्ड।

विषयः– जनपद, देहरादून में मातृ स्वास्थ्य सेवाओं का सर्वे किये जाने के सम्बन्ध में।

महोदय,

जैसा कि आप अवगत है कि प्रदेश का मातृ मृत्यु अनुपात 103 प्रति एक लाख जीवित जनम है जिसे कम किये जाने हेतु विभिन्न योजनाओं का संचालन किया जा रहा है। इसी कम में अवगत कराना है कि एस0डी0एच0 ऋषिकेश, प्रेमनगर, विकासनगर एवं सी0एच0सी0 रायपुर, देहरादून में गर्भवती एवं धात्री महिलाओं को प्रदान की जा रही सेवाओं के सम्बन्ध में सर्वे किया जाना है। उक्त सर्वे हेतु डा0 ऐश्वर्या पुण्डीर, एम0बी0ए0, छात्रा आई0आई0एच0एम0आर0 जो कि राष्ट्रीय स्वास्थ्य मिशन, उत्तराखण्ड में इन्टर्न कर रही हैं। उनके द्वारा उक्त सर्वे किया जाना है ताकि वर्तमान में प्रदान की जा रही मातृ सेवाओं में कमियों का पता चल सके एवं उन्हे दूर किये जाने हेतु आवश्यक कदम उठाए जा सके। उक्त सर्वे में डा0 ऐश्वर्या पुण्डीर के द्वारा लाभार्थियों एवं चिकित्सकों से साक्षात्कार किया जायेगा।

अतः उपरोक्त के कम में आपको इस आशय से पत्र प्रेषित किया जा रहा है कि डा0 ऐश्वर्या पुण्डीर को जनपद देहरादून में उक्त सर्वे किये जाने हेतु सहयोग प्रदान करने का कष्ट करें।

भवदीया,

(डा0 उमा रावत)
प्रभारी अधिकारी,
मातृ एवं बाल स्वास्थ्य कार्यक्रम,
राष्ट्रीय स्वास्थ्य मिशन, उत्तराखण्ड।

प्रतिलिपि– निम्न को सूचनार्थ प्रेषितः–

1. मिशन निदेशक, राष्ट्रीय स्वास्थ्य मिशन, उत्तराखण्ड।
2. निदेशक, राष्ट्रीय स्वास्थ्य मिशन, उत्तराखण्ड।
3. मुख्य चिकित्सा अधीक्षक / चिकित्सा अधीक्षक, एस0डी0एच0, ऋषिकेश, प्रेमनगर, विकासनगर एवं सी0एच0सी0 रायपुर, देहरादून।

प्रभारी अधिकारी,
मातृ एवं बाल स्वास्थ्य कार्यक्रम,
राष्ट्रीय स्वास्थ्य मिशन, उत्तराखण्ड।

Appendix C: Consent form for the survey being done

मातृ स्वास्थ्य सेवा लाभार्थी सर्वेक्षण में भाग लेने के लिए सहमति प्रपत्र

हम जिला अस्पताल में मातृ स्वास्थ्य सेवाओं के लाभार्थियों के अनुभवों को समझने के लिए एक सर्वेक्षण कर रहे हैं। आपकी भागीदारी हमें इस कार्यक्रम के तहत प्रदान की जाने वाली सेवाओं को बेहतर बनाने में मदद करेगी। इस सर्वेक्षण में आपकी भागीदारी पूरी तरह से स्वैच्छिक है। यदि आप भाग लेने के लिए सहमत हैं, तो हम आपसे जिला अस्पताल में मातृ स्वास्थ्य सेवाओं के साथ आपके अनुभवों के बारे में कई प्रश्न पूछेंगे। सर्वेक्षण पूरा होने में लगभग 10-15 मिनट लगेंगे।

सहमति:

नीचे हस्ताक्षर करके, आप स्वीकार करते हैं कि आपने ऊपर दी गई जानकारी को पढ़ और समझ लिया है और इस सर्वेक्षण में भाग लेने के लिए सहमत हैं।

आपकी भागीदारी के लिए धन्यवाद।

प्रतिभागी का नाम: Sonam हस्ताक्षर/अंगूठा: सोनम

प्रतिभागी का नाम: Kanchan. हस्ताक्षर/अंगूठा: कंचन

प्रतिभागी का नाम: Akansha / Ankur. हस्ताक्षर/अंगूठा: Ankur

प्रतिभागी का नाम: Vandana. हस्ताक्षर/अंगूठा: Vandana

प्रतिभागी का नाम: Ikra. हस्ताक्षर/अंगूठा: Ikra

प्रतिभागी का नाम: Rita. हस्ताक्षर/अंगूठा: रीता

प्रतिभागी का नाम: Naziya. हस्ताक्षर/अंगूठा: Naziya

प्रतिभागी का नाम: Soniya. हस्ताक्षर/अंगूठा: सोनिया

प्रतिभागी का नाम: Kajal. हस्ताक्षर/अंगूठा: Kajal

प्रतिभागी का नाम: Krishna. हस्ताक्षर/अंगूठा: Krishna

प्रतिभागी का नाम: Pooja हस्ताक्षर/अंगूठा: Pooja

प्रतिभागी का नाम: Rashmi. हस्ताक्षर/अंगूठा: रश्मि.

मातृ स्वास्थ्य सेवा लाभार्थी सर्वेक्षण में भाग लेने के लिए सहमति प्रपत्र

हम जनपद देहरादून में मातृ स्वास्थ्य सेवाओं के लाभार्थियों के अनुभवों को समझने के लिए एक सर्वेक्षण कर रहे हैं। आपकी भागीदारी हमें इस कार्यक्रम के तहत प्रदान की जाने वाली सेवाओं को बेहतर बनाने में मदद करेगी। इस सर्वेक्षण में आपकी भागीदारी पूरी तरह से स्वैच्छिक है। यदि आप भाग लेने के लिए सहमत हैं, तो हम आपसे एसडीएच ऋषिकेश में मातृ स्वास्थ्य सेवाओं के साथ आपके अनुभवों के बारे में कई प्रश्न पूछेंगे। सर्वेक्षण पूरा होने में लगभग 10-15 मिनट लगेंगे।

सहमति:

नीचे हस्ताक्षर करके, आप स्वीकार करते हैं कि आपने ऊपर दी गई जानकारी को पढ़ और समझ लिया है और इस सर्वेक्षण में भाग लेने के लिए सहमत हैं।

आपकी भागीदारी के लिए धन्यवाद।

प्रतिभागी का नाम: Poonam हस्ताक्षर/अंगूठा: पूनम

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CHC Raipur

प्रतिभागी का नाम: Neetu Rawat हस्ताक्षर/अंगूठा: Nitu

प्रतिभागी का नाम: Rekha. हस्ताक्षर/अंगूठा: रेखा

प्रतिभागी का नाम: Babita हस्ताक्षर/अंगूठा: बबीता

प्रतिभागी का नाम: Shivani हस्ताक्षर/अंगूठा:

Section III
Project 2:
Report on ANEMIA SCREENING SURVEY in women of reproductive age (special focus on age groups 20-30 years and newly married women) in Udham Singh Nagar and Chamoli

Chapter 1- Introduction

Anemia Mukt Bharat

Anemia Mukt Bharat (AMB) is a comprehensive initiative launched by the Government of India under the National Health Mission (NHM) with the goal of reducing the prevalence of anemia across the country. Anemia, a condition characterized by a deficiency of red blood cells or hemoglobin, affects a significant portion of the Indian population, particularly among women, children, and adolescents. Recognizing the severe health and socio-economic impacts of anemia, the AMB strategy aims to address and mitigate these challenges through a multi-faceted approach.

The AMB strategy was introduced in 2018, building on the National Iron Plus Initiative (NIPI) and other previous efforts. It emphasizes a life-cycle approach to anemia control, targeting key vulnerable groups such as children (6-59 months), adolescents (10-19 years), pregnant and lactating women, and women of reproductive age (15-49 years). The program's implementation focuses on six critical interventions:

1. **Prophylactic Iron and Folic Acid Supplementation:** Providing regular iron and folic acid supplements to the targeted population groups.
2. **Deworming:** Conducting regular deworming campaigns to reduce parasitic infections that contribute to anemia.
3. **Intensified Year-Round Behavior Change Communication (BCC) Campaigns:** Promoting dietary diversity, health-seeking behaviors, and awareness about anemia through community engagement and education.
4. **Testing and Treatment of Anemia:** Ensuring routine screening and effective treatment of anemia, particularly among pregnant women and adolescents.
5. **Mandatory Provision of Iron and Folic Acid-fortified Foods:** Encouraging the inclusion of iron-fortified foods in public health programs such as the Integrated Child Development Services (ICDS) and Mid-Day Meal Scheme.
6. **Addressing Non-Nutritional Causes of Anemia:** Tackling other factors contributing to anemia, including infections like malaria, genetic disorders like thalassemia, and overall health status improvement.

AMB's goal is to achieve a three-percentage point reduction in anemia prevalence per year among children, adolescents, and women of reproductive age. By employing a robust monitoring and evaluation framework, leveraging technology, and fostering inter-sectoral coordination, AMB aims to ensure the effective implementation and sustainability of these interventions. This report presents the findings of an anemia screening survey conducted among women of reproductive age group in Udham Singh Nagar and Chamoli districts. The survey specifically targeted age groups 20-30 years and newly married women who are non-pregnant and non-lactating. The objective was to assess the prevalence of anemia and identify potential areas for intervention.

Chapter 2- Review of Literature

1.Interventions and Implementation

Kapil et al. (2019) discusses that the AMB program incorporates a range of interventions including prophylactic iron and folic acid supplementation, deworming, intensified year-round behavior change communication campaigns, testing and treatment of anemia using digital methods, point-of-care treatment, and mandatory provision of iron-folic acid fortified foods in public health programs. The authors emphasize the importance of these integrated measures in addressing the multifactorial nature of anemia.

2.Program Effectiveness and Challenges

According to Sharma et al. (2020), the effectiveness of the AMB initiative has been seen in the reduction of anemia prevalence in various states. However, the authors also highlight challenges such as inadequate supply chain management, socio-cultural barriers, and variations in program implementation across regions. They suggest that addressing these issues requires a more robust monitoring and evaluation framework to ensure uniform implementation and to measure progress accurately.

3.Community Engagement and Awareness

Desai et al. (2021) underlines the significance of community engagement and awareness in the success of the AMB initiative. Their research shows that community health workers play a critical role in disseminating information and ensuring compliance with supplementation regimens. The authors point out that despite efforts, there is still a need for greater awareness and behavioral change, particularly in rural areas.

4.Policy and Future Directions

Kumar and Singh (2022) provide a comprehensive review of policy initiatives under the AMB program, noting that the policy framework is well-structured but requires continuous updates based on emerging evidence and trends. They advocate for the integration of AMB with other national health programs to maximize impact and resource utilization.

Chapter 3- Aims and Objectives

Aim

To determine the prevalence and severity of anemia among newly married, non-pregnant, and non-lactating women aged 20-30 years in Udham Singh Nagar and Chamoli districts.

Objective

a. Prevalence Assessment: To measure the prevalence of anemia in the target population.

b. Severity Classification: To categorize the severity of anemia among anemic women.

c. Health Implications: To assess common health complaints related to anemia.

e. Intervention Identification: To identify potential areas for nutritional and healthcare interventions.

Chapter 4- Research Questions

1. What is the prevalence of anemia among newly married, non-pregnant, and non-lactating women aged 20-30 years in Udham Singh Nagar and Chamoli districts?
2. How does the severity of anemia vary among the surveyed women in these districts?
3. What are the health implications and common complaints associated with anemia among these women?
4. What interventions can be recommended to reduce the prevalence of anemia in these districts?

Chapter 5- Methodology

The survey was conducted in two blocks of each district:

- Udham Singh Nagar: Khatima and Gadarpur
- Chamoli: Gairsain and Narayan Bagar

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- **Preparation of Standard Operating Procedure (SOP)**

A detailed SOP was prepared to ensure consistency and accuracy in data collection. Key components included:

- Selection Criteria: Women aged 20-30 years, newly married, non-pregnant, and non-lactating.
- Survey Tools: Use of Google Form for online data collection and a physical form for in-person interviews.
- Screening Method: Hemoglobin estimation using a portable hemoglobin meter.
- Data Confidentiality: Ensuring participant privacy and data security.

- **Google Form and Physical Form Format**

Two types of survey instruments were developed:

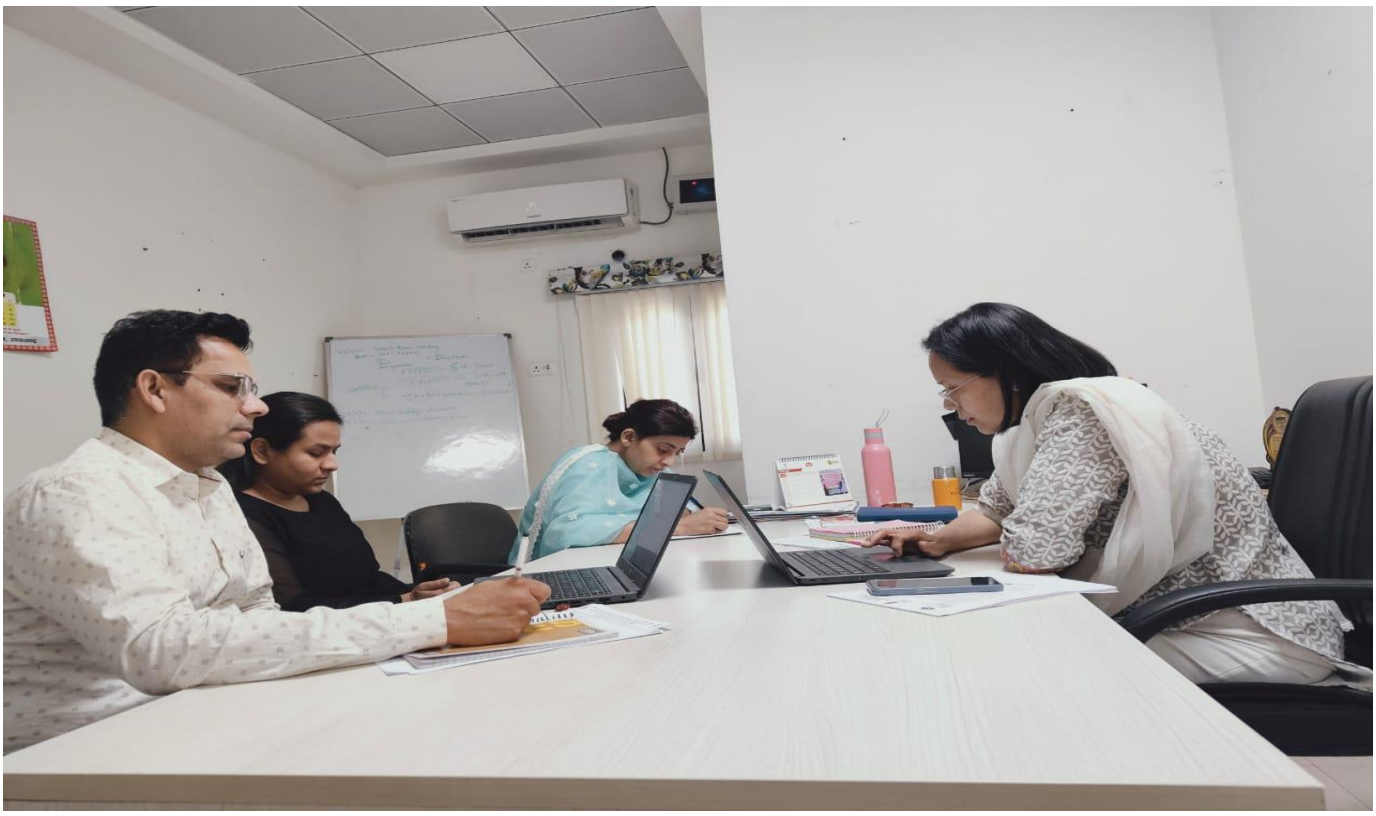
1. Google Form: For tech-savvy respondents who could fill out the form online. It included fields for personal details and hemoglobin levels.
2. Physical Form: In case of poor internet connection. It mirrored the Google Form in structure and content. Could be transferred to google form later.

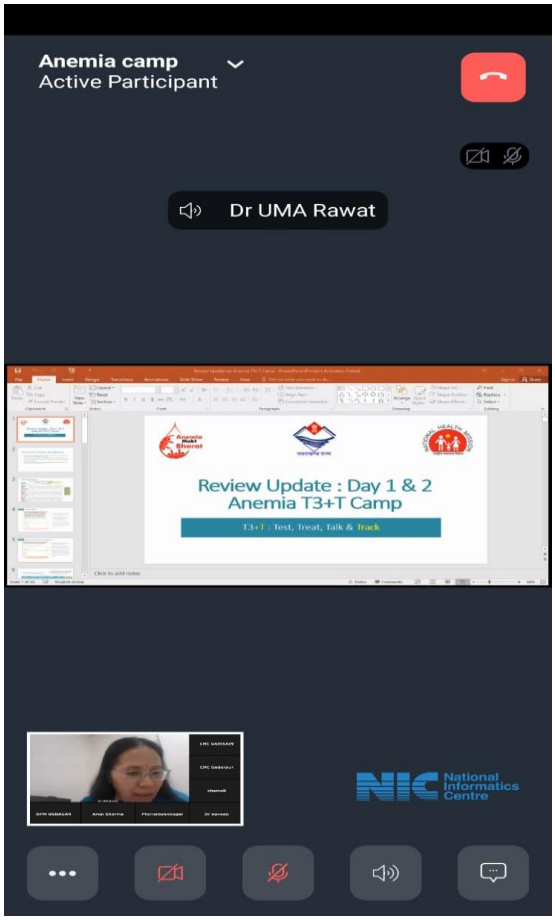
- **Orientation Process**

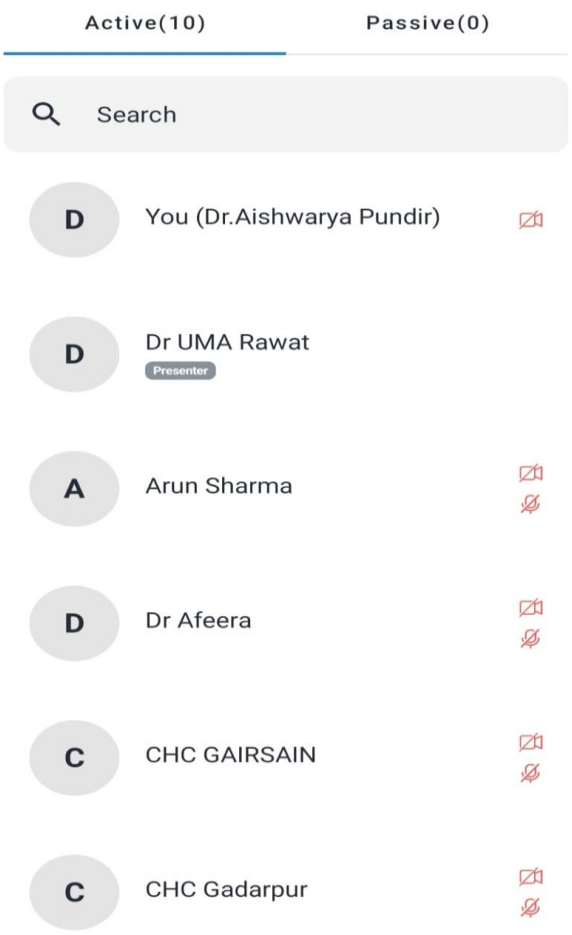
Conduction of meetings with the DPMU's of Udham Singh Nagar and Chamoli districts to make them aware of this project and address their questions to facilitate its smooth implementation.

- **Review meetings**

Conduction of meetings with the DPMU's of Udham Singh Nagar and Chamoli districts for timely review and addressing any queries if they face any challenges.







Data Collection

Sample Size and Demographics (till 22/06/24):

-Total Participants: **10595**

- Age Group: **20-49 years**

- Target group: **20-30 years** and **newly married women**

- Physiological Status: **Non-pregnant and non-lactating**

Screening Process

1.Recruitment: ANM and CHO.

2.Hemoglobin Measurement: A drop of blood was collected using a finger prick and analyzed using a portable hemoglobin meter.

3.Data Entry: Data from physical forms were entered into the Google Form by field staff (ANM or CHO) for uniformity.

Chapter 6- Observations and Analysis

Prevalence of Anemia (till 22/06/24):

UDHAM SINGH NAGAR

- Khatima: **84 %** of participants were anemic (Hb < 12 g/dL)
- Gadarpur: **86.8%** of participants were anemic (Hb < 12 g/dL)

CHAMOLI

- Gairsain: **72.8%** of participants were anemic (Hb < 12 g/dL)

-Narayan Bagar: **58.8%** of participants were anemic (Hb < 12 g/dL)

Severity of Anemia

- Mild Anemia (11-11.9 g/dL): **22.41%** in Udham Singh Nagar, **27.74%** in Chamoli

- Moderate Anemia (8-10.9 g/dL): **48.72%** in Udham Singh Nagar, **30.14%** in Chamoli

- Severe Anemia (<8 g/dL): **2.9 %** in both districts.

REPORT TILL 22/06/24

Cumulative report

Anemia T3+T Camp Report

Districts	Blocks	Camps Planned													
		Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7	Day 8	Day 9	Day 10	Day 11	Day 12	Day 13	Cumulative
US Nagar	Khatima	11	22	0	23	20	0	0	3	20	1	21	21	1	**143**
	Gadarpur	0	11	1	10	12	0	0	0	10	1	11	12	0	**68**
Chamoli	Narayanbagar	1	2	6	7	6	2	0	1	4	2	2	2	4	**39**
	Gairsain	6	17	0	19	19	0	0	19	19	0	17	16	0	**132**
Total		**18**	**52**	**7**	**59**	**57**	**2**	**0**	**23**	**53**	**4**	**51**	**51**	**5**	**382**

Districts	Blocks	Camps Held													
		Cumulative		Day 1		Day 2		Day 3		Day 4		Day 5		Day 6	
		In Nos.	%	Planned	Additional	Planned	Additional	Planned	Additional	Planned	Additiona	Planned	Additional	Planned	Additional
US Nagar	Khatima	**127**	**89%**	9	1	18	3	0	7	18	0	9	0	0	0
	Gadarpur	**50**	**74%**	0	0	5	0	1	1	9	1	11	0	0	0
Chamoli	Narayanbagar	**47**	**121%**	1	1	2	1	5	1	6	1	5	1	2	6
	Gairsain	**79**	**60%**	3	1	4	0	0	0	4	0	12	0	0	9
Total		**312**	**82%**	**13**	**3**	**29**	**4**	**6**	**9**	**37**	**2**	**37**	**1**	**2**	**15**

Districts	Blocks	Camps Held													
		Day 7		Day 8		Day 9		Day 10		Day 11		Day 12		Day 13	
		Planned	Additional	Planned	Additional	Planned	Additional	Planned	Additional	Planned	Additional	Planned	Additional	Planned	Additional
US Nagar	Khatima	0	0	1	0	12	5	0	1	16	2	16	5	0	4
	Gadarpur	0	0	0	0	7	0	1	0	6	0	8	0	0	0
Chamoli	Narayanbagar	0	0	1	0	3	4	2	1	1	1	1	1	1	1
	Gairsain	0	2	12	1	10	0	0	4	8	0	8	1	0	7
Total		**0**	**2**	**14**	**1**	**32**	**9**	**3**	**6**	**31**	**3**	**33**	**7**	**1**	**12**

SCREENING RESULTS TILL 22/06/24

Screening Results

Result of Screening of WRA group (Day 1)

Districts	Blocks	Number of cases screened	Hb >12		Hb 11-11.9		Hb 8-10.9		Hb < 8	
			nos.	%	nos.	%	nos.	%	nos.	%
US Nagar	Khatima	181	54	29.8%	48	26.5%	77	42.5%	2	1.1%
	Gadarpur	1	0	0.0%	0	0.0%	1	100.0%	0	0.0%
Chamoli	Narayanbagar	18	0	0.0%	12	66.7%	6	33.3%	0	0.0%
	Gairsain	206	103	50.0%	52	25.2%	41	19.9%	10	4.9%
Total		**406**	**157**	**38.7%**	**112**	**27.6%**	**125**	**30.8%**	**12**	**3.0%**

Result of Screening of WRA group (Day 2)

Districts	Blocks	Number of cases screened	Hb >12		Hb 11-11.9		Hb 8-10.9		Hb < 8	
			nos.	%	nos.	%	nos.	%	nos.	%
US Nagar	Khatima	989	185	18.7%	365	36.9%	429	43.4%	10	1.0%
	Gadarpur	231	43	18.6%	50	21.6%	134	58.0%	4	1.7%
Chamoli	Narayanbagar	32	2	6.3%	17	53.1%	13	40.6%	0	0.0%
	Gairsain	440	205	46.6%	129	29.3%	93	21.1%	13	3.0%
Total		**1692**	**435**	**25.7%**	**561**	**33.2%**	**669**	**39.5%**	**27**	**1.6%**

Result of Screening of WRA group (Day 3)

Districts	Blocks	Number of cases screened	Hb >12		Hb 11-11.9		Hb 8-10.9		Hb < 8	
			nos.	%	nos.	%	nos.	%	nos.	%
US Nagar	Khatima	125	6	4.8%	71	56.8%	48	38.4%	0	0.0%
	Gadarpur	23	0	0.0%	1	4.3%	19	82.6%	3	13.0%
Chamoli	Narayanbagar	90	33	36.7%	26	28.9%	24	26.7%	7	7.8%
	Gairsain	39	6	15.4%	12	30.8%	21	53.8%	0	0.0%
Total		**277**	**45**	**16.2%**	**110**	**39.7%**	**112**	**40.4%**	**10**	**3.6%**

Result of Screening of WRA group (Day 4)

Districts	Blocks	Number of cases screened	Hb >12		Hb 11-11.9		Hb 8-10.9		Hb < 8	
			nos.	%	nos.	%	nos.	%	nos.	%
US Nagar	Khatima	988	147	14.9%	364	36.8%	449	45.4%	28	2.8%
	Gadarpur	470	78	16.6%	164	34.9%	216	46.0%	12	2.6%
Chamoli	Narayanbagar	73	20	27.4%	29	39.7%	22	30.1%	2	2.7%
	Gairsain	169	43	25.4%	54	32.0%	63	37.3%	9	5.3%
Total		**1700**	**288**	**16.9%**	**611**	**35.9%**	**750**	**44.1%**	**51**	**3.0%**

Result of Screening of WRA group (Day 5)										
Districts	Blocks	Number of cases screened	Hb >12		Hb 11-11.9		Hb 8-10.9		Hb < 8	
			nos.	%	nos.	%	nos.	%	nos.	%
US Nagar	Khatima	555	76	13.7%	181	32.6%	277	49.9%	21	3.8%
	Gadarpur	389	55	14.1%	75	19.3%	225	57.8%	34	8.7%
Chamoli	Narayanbagar	70	15	21.4%	21	30.0%	29	41.4%	5	7.1%
	Gairsain	407	176	43.2%	101	24.8%	119	29.2%	11	2.7%
Total		**1421**	**322**	**22.7%**	**378**	**26.6%**	**650**	**45.7%**	**71**	**5.0%**

Result of Screening of WRA group (Day 6)										
Districts	Blocks	Number of cases screened	Hb >12		Hb 11-11.9		Hb 8-10.9		Hb < 8	
			nos.	%	nos.	%	nos.	%	nos.	%
US Nagar	Khatima	0	0		0		0		0	
	Gadarpur	0	0		0		0		0	
Chamoli	Narayanbagar	92	29	31.5%	26	28.3%	36	39.1%	1	1.1%
	Gairsain	224	98	43.8%	50	22.3%	69	30.8%	7	3.1%
Total		**316**	**127**	**40.2%**	**76**	**24.1%**	**105**	**33.2%**	**8**	**2.5%**

Result of Screening of WRA group (Day 7)										
Districts	Blocks	Number of cases screened	Hb >12		Hb 11-11.9		Hb 8-10.9		Hb < 8	
			nos.	%	nos.	%	nos.	%	nos.	%
US Nagar	Khatima	0	0		0		0		0	
	Gadarpur	0	0		0		0		0	
Chamoli	Narayanbagar	0	0		0		0		0	
	Gairsain	2	1	50.0%	1	50.0%	0	0.0%	0	0.0%
Total		**2**	**1**	**50.0%**	**1**	**50.0%**	**0**	**0.0%**	**0**	**0.0%**

Result of Screening of WRA group (Day 8)										
Districts	Blocks	Number of cases screened	Hb >12		Hb 11-11.9		Hb 8-10.9		Hb < 8	
			nos.	%	nos.	%	nos.	%	nos.	%
US Nagar	Khatima	22	12	54.5%	5	22.7%	5	22.7%	0	0.0%
	Gadarpur	0	0		0		0		0	
Chamoli	Narayanbagar	8	1	12.5%	1	12.5%	5	62.5%	1	12.5%
	Gairsain	426	185	43.4%	114	26.8%	115	27.0%	12	2.8%
Total		**456**	**198**	**43.4%**	**120**	**26.3%**	**125**	**27.4%**	**13**	**2.9%**

Result of Screening of WRA group (Day 9)										
Districts	Blocks	Number of cases screened	Hb >12		Hb 11-11.9		Hb 8-10.9		Hb < 8	
			nos.	%	nos.	%	nos.	%	nos.	%
US Nagar	Khatima	720	121	16.8%	214	29.7%	371	51.5%	14	1.9%
	Gadarpur	202	31	15.3%	48	23.8%	113	55.9%	10	5.0%
Chamoli	Narayanbagar	108	28	25.9%	35	32.4%	40	37.0%	5	4.6%
	Gairsain	428	184	43.0%	119	27.8%	111	25.9%	14	3.3%
Total		**1458**	**364**	**25.0%**	**416**	**28.5%**	**635**	**43.6%**	**43**	**2.9%**

Result of Screening of WRA group (Day 10)										
Districts	Blocks	Number of cases screened	Hb >12		Hb 11-11.9		Hb 8-10.9		Hb < 8	
			nos.	%	nos.	%	nos.	%	nos.	%
US Nagar	Khatima	57	0	0.0%	56	98.2%	1	1.8%	0	0.0%
	Gadarpur	51	0	0.0%	0	0.0%	51	100.0%	0	0.0%
Chamoli	Narayanbagar	31	9	29.0%	6	19.4%	16	51.6%	0	0.0%
	Gairsain	151	51	33.8%	46	30.5%	52	34.4%	2	1.3%
Total		**290**	**60**	**20.7%**	**108**	**37.2%**	**120**	**41.4%**	**2**	**0.7%**

Result of Screening of WRA group (Day 11)										
Districts	Blocks	Number of cases screened	Hb >12		Hb 11-11.9		Hb 8-10.9		Hb < 8	
			nos.	%	nos.	%	nos.	%	nos.	%
US Nagar	Khatima	591	62	10.5%	231	39.1%	284	48.1%	14	2.4%
	Gadarpur	240	23	9.6%	49	20.4%	149	62.1%	19	7.9%
Chamoli	Narayanbagar	16	3	18.8%	7	43.8%	6	37.5%	0	0.0%
	Gairsain	331	103	31.1%	88	26.6%	133	40.2%	7	2.1%
Total		**1178**	**191**	**16.2%**	**375**	**31.8%**	**572**	**48.6%**	**40**	**3.4%**

Result of Screening of WRA group (Day 12)										
Districts	Blocks	Number of cases screened	Hb >12		Hb 11-11.9		Hb 8-10.9		Hb < 8	
			nos.	%	nos.	%	nos.	%	nos.	%
US Nagar	Khatima	681	116	17.0%	264	38.8%	290	42.6%	11	1.6%
	Gadarpur	207	10	4.8%	40	19.3%	143	69.1%	14	6.8%
Chamoli	Narayanbagar	14	1	7.1%	9	64.3%	4	28.6%	0	0.0%
	Gairsain	340	147	43.2%	92	27.1%	95	27.9%	6	1.8%
Total		**1242**	**274**	**22.1%**	**405**	**32.6%**	**532**	**42.8%**	**31**	**2.5%**

Result of Screening of WRA group (Day 13)										
Districts	Blocks	Number of cases screened	Hb >12		Hb 11-11.9		Hb 8-10.9		Hb < 8	
			nos.	%	nos.	%	nos.	%	nos.	%
US Nagar	Khatima	21	9	42.9%	6	28.6%	4	19.0%	2	9.5%
	Gadarpur	0	0		0		0		0	
Chamoli	Narayanbagar	50	23	46.0%	11	22.0%	16	32.0%	0	0.0%
	Gairsain	86	36	41.9%	17	19.8%	32	37.2%	1	1.2%
Total		**157**	**68**	**43.3%**	**34**	**21.7%**	**52**	**33.1%**	**3**	**1.9%**

Result of Screening of WRA group (cumulative)										
Districts	Blocks	Number of cases screened	Hb >12		Hb 11-11.9		Hb 8-10.9		Hb < 8	
			nos.	%	nos.	%	nos.	%	nos.	%
US Nagar	Khatima	4930	788	16.0%	1805	36.6%	2235	45.3%	102	2.1%
	Gadarpur	1814	240	13.2%	427	23.5%	1051	57.9%	96	5.3%
Chamoli	Narayanbagar	602	164	27.2%	200	33.2%	217	36.0%	21	3.5%
	Gairsain	3249	1338	41.2%	875	26.9%	944	29.1%	92	2.8%
Total		**10595**	**2530**	**23.9%**	**3307**	**31.2%**	**4447**	**42.0%**	**311**	**2.9%**

Chapter 7- Discussion, Challenges & Recommendations

Discussion

The survey indicates a high prevalence of anemia among newly married, non-pregnant, and non-lactating women aged 20-30 years in both Udham Singh Nagar and Chamoli districts. The higher prevalence in Udham Singh Nagar may be due to differences in diet, socioeconomic status, and access to healthcare.

Key Findings

1. High Prevalence: More than half of the surveyed women were anemic.
2. Health Implications: Anemia contributes to overall poor health and reduced productivity.

Challenges

1. Planning template not as per time duration decided.
2. Invalid contact numbers of ANM and CHO given in the micro plan.
3. As stated in the micro plan, not all areas to be covered were actually covered.
4. Improper or incorrect use of Hemoglobinometers.
5. Problem while updating data in google forms due to various forms given.
6. Invalid date put forth in the forms while feeding the forms.
7. Incorrect or ghost numbers of the beneficiaries provided.

Recommendations

1. Nutritional Interventions: Promote iron-rich diets and supplementation programs.
2. Health Education: Conduct awareness campaigns about anemia and its prevention.

3. Regular Screening: Implement regular anemia screening in reproductive health programs.

4. Access to Healthcare: Improve access to healthcare facilities for early detection and treatment.

Chapter 8- Conclusion

This survey highlights a significant public health issue in the form of anemia among women of reproductive age in Udham Singh Nagar and Chamoli. Addressing this issue through targeted nutritional and health interventions can improve the health and wellbeing of these women, contributing to better maternal and child health outcomes.

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Appendices

Appendix D: SOP for Anemia Screening Survey

Title: Standard Operating Procedure for Anemia Screening in Women of Reproductive Age Group

1. Purpose: The purpose of this SOP is to explain the systematic procedure for conducting anemia screening among women of reproductive age with special focus on age groups **20-30 years and Newly married Women** at the village level. This responsibility primarily falls upon Auxiliary Nurse Midwives (ANMs) and Community Health Officers (CHOs).

2. Beneficiaries:

Women of reproductive age group who are non-pregnant and non-lactating with special focus on age groups **20-30 years and Newly married Women.**

3. Tools for Hb Screening:

- Digital Hb meter
- Lancet
- Alcohol swab

4. Methodology:

- **ANMs and CHOs** will execute the T3+T camp (Test, Talk, Treat and track) independently/ jointly.
- **Frequency:** At least 2 camps per week.
- **Suggestive places:** SC, village, AWC, PRI, VHND.

- **Each ANM and CHO will conduct one camp in every village.**
- **Hilly Terrain:** One camp per village and college.
- **Plain District:** One or two camps or more in one village and college as per the number of beneficiaries.
- **Advance Micro Plan:** ANMs and CHOs will strategize T3+T camp details (date, day, time, and venue) for their respective areas.

Mobilization: ASHA and Anganwadi workers will mobilize beneficiaries, including women of reproductive age who are non-pregnant and non-lactating with special focus on age groups **20-30 years and Newly married Women.**

5. Data Collection Tool: Google Form for a line listing each beneficiary.

6. Monitoring of Camp: Conducted by Medical Officer with at least 2-3 camp visits per month.

7. Procedure:

1) Hemoglobin Testing:

a. Clean the fingertip with an alcohol swab. (3^{RD} -middle finger AND 4^{TH} -ring finger)
b. Use a lancet to prick the fingertip and collect a drop of blood. (When collecting a blood sample, ensure to wipe away the first drop of blood before collecting the sample to avoid contamination and ensure accurate test results)
c. Apply the blood on the hemoglobin testing strip as per the manufacturer's instructions.
d. Wait for the specified duration and read the hemoglobin level on the testing strip.
e. Record the hemoglobin level on the designated form.

2) Interpretation of Results:

a. Interpret the hemoglobin level based on established cutoff values for anemia.
b. Provide counselling and appropriate referral for women with abnormal hemoglobin levels.

8. Training and Capacity Building: Provide training to ANMs and CHOs on the proper implementation of this SOP by Medical Officers.

9. Anemia Management Protocol:

- ✓ **Women of reproductive age (WRA)** who are not pregnant or non-lactating will be provided weekly IFA (Red) tablets. Each state is encouraged to integrate the provision of IFA tablets, Folic Acid tablets and deworming (albendazole) for WRA interventions through the immunization day/VHND platform where feasible.

- ✓ Beneficiaries will be encouraged to undergo haemoglobin testing at the nearest health facility and, if diagnosed to be anemic, treatment will be provided as per protocol with advice on supplementation, once the Hb is normal. If Hb is found to be normal, weekly IFA supplementation will be provided

and if the woman is planning for pregnancy, she is to be counselled to stop IFA supplementation and initiate Folic Acid supplementation. If she is already pregnant and in the first trimester of pregnancy, she will be counselled to continue Folic Acid supplementation till 12 weeks of pregnancy and begin IFA supplementation after 12 weeks as per standard ANC protocol. The Folic Acid tablets will be provided at the VHND/SCs by ANM.

AMB Beneficiaries	**Supplement**	**Prophylactic dosage**	**Therapeutic dosage**	**Follow up**
Women of reproductive age (non-pregnant, non lactating) 20–49 years	IFA Red (60 mg Elemental iron and 500mcg Folic Acid)	Once a week	Frequency: Once a day Duration: 3 months	After 3 months (sub-center/ health facility)

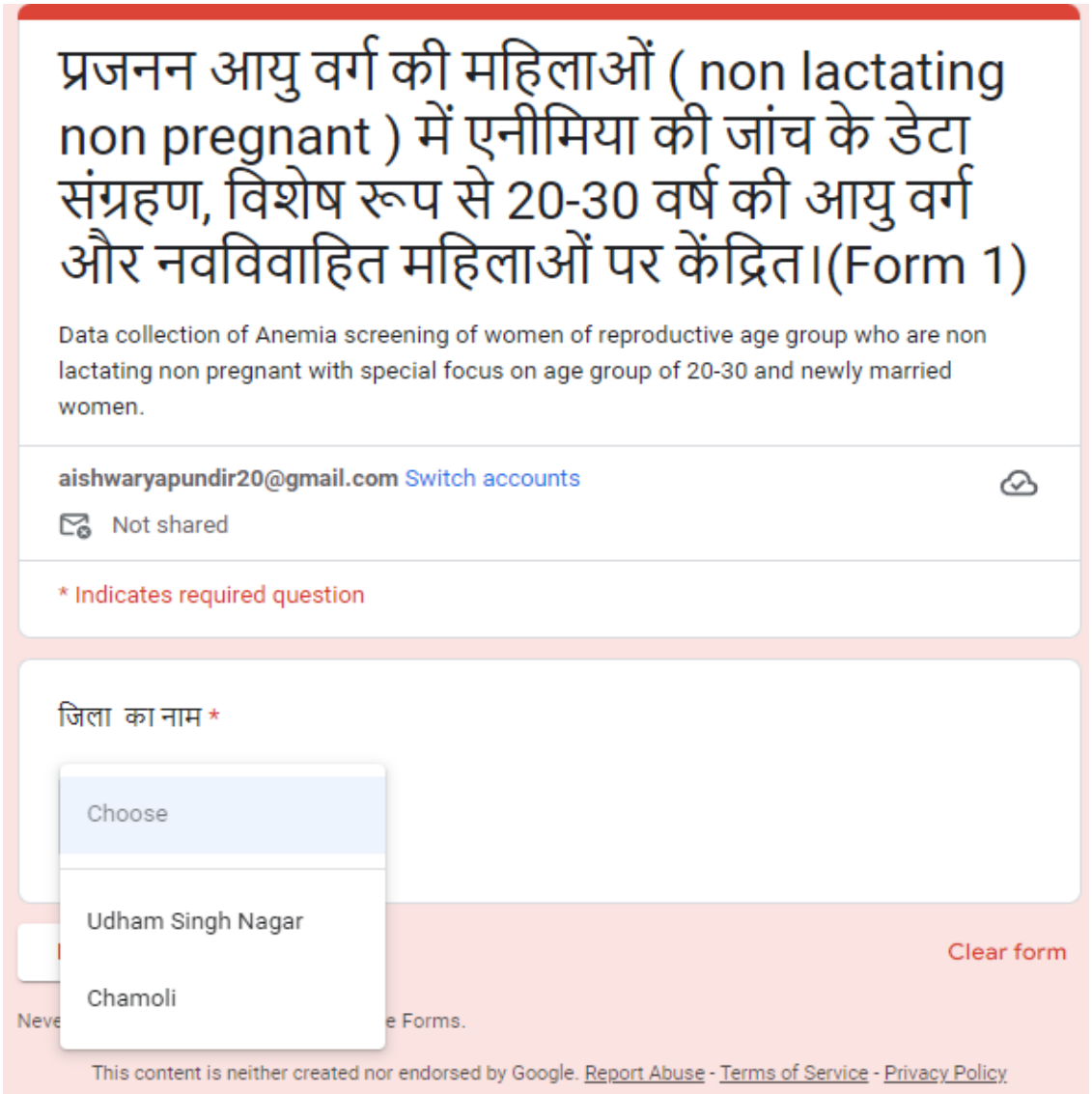
If a woman of reproductive age group finds that She is pregnant then following protocol to be adopted:

AMB Beneficiaries	**Supplement**	**Prophylactic dosage**	**Therapeutic dosage**	**Follow up**
Pregnant women (In the First Trimester)	Folic Acid 500mcg	Once a day for 1st trimester		Monthly at ANC Contact (subcenter/ health facility)
Pregnant women (From 2nd Trimester)	IFA Red (60 mg Elemental iron and 500mcg Folic Acid)	Once a day (2nd trimester onwards)	Frequency: Daily (Twice a day) Duration: 180 days from 2nd trimester	Monthly at ANC Contact (subcenter/ health facility)

Deworming: Dose and regime

Age Group	Dose and regime
Women of reproductive age (non-pregnant, non-lactating) 20–49 years	Biannual dose of 400 mg albendazole (1 tablet)
Pregnant women	One dose of 400 mg albendazole (1 tablet), after the first trimester, preferably during the second trimester

Appendix E: Google Form Template



Appendix F: Physical Form Format

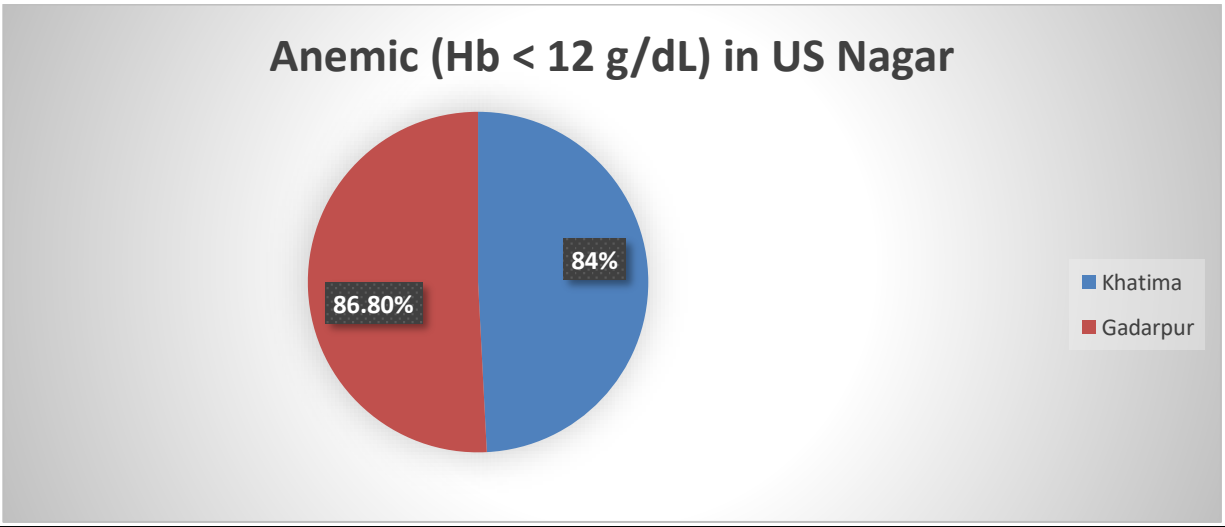
Reporting Format for data recording Manually-

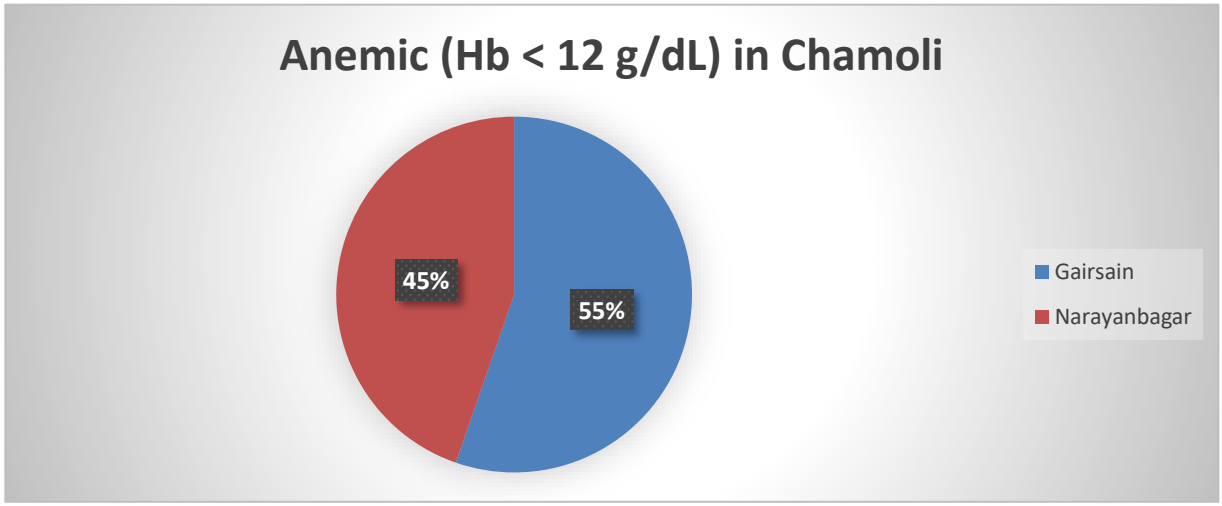
प्रजनन आयु वर्ग की महिला (non pregnant ,non-lactating) के लिए एनीमिया जांच के डेटा का संग्रहण।										
जनपद का नाम -			ब्लॉक का नाम -		SC का नाम -		फैसिलिटी कोड (HMIS के तहत) -		अनिमिक पाया गया तो क्या उपचार/परामर्श दिया गया (1/2/3/4) - 1.IFA tab - सप्ताह में एक बार 2.IFA tab - प्रतिदिन दो बार 3.रेफर किया गया 4.IFA tab और रेफर किया गया	कोई अन्य जानकारी जो आप साझा करना चाहते है
क्रम संख्या	कैंप का स्थान /पता	कैंप लगाने वाली टीम	लाभार्थी का नाम	लाभार्थी की उम्र (वर्ष मे)	लाभार्थी का मोबाइल नंबर	लाभार्थी की ABHA ID	लाभार्थी का ग्राम /पता	जाँच मे हीमोग्लोबिन का स्तर कितना पाया गया (g/dl)		
1										
2										
3										

Appendix G: Data Summary Tables and Charts

Districts	Blocks	Number of cases screened block wise	Number of cases screened district wise	Hb>12		Hb 11-11.9		Hb 8-10.9		Hb <8	
				no.s	%	no.s	%	no.s	%	no.s	%
US Nagar	Khatima	4930	6744	1028	15.2%	2232	33.1%	3286	48.7%	198	2.9%
	Gadarpur	1814									
Chamoli	Narayanbagar	602	3851	1502	39.0%	1075	27.9%	1161	30.1%	113	2.9%
	Gairsain	3249									

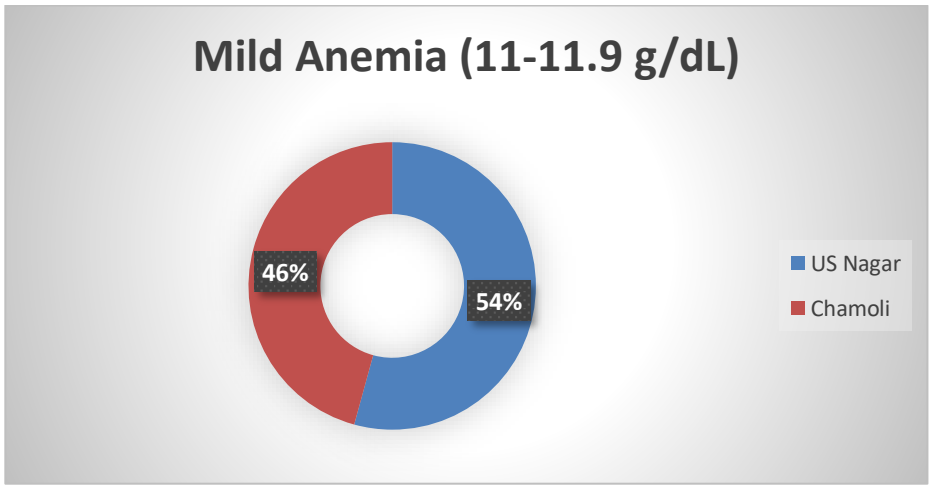
Anemic Status (Hb < 12 g/dL)



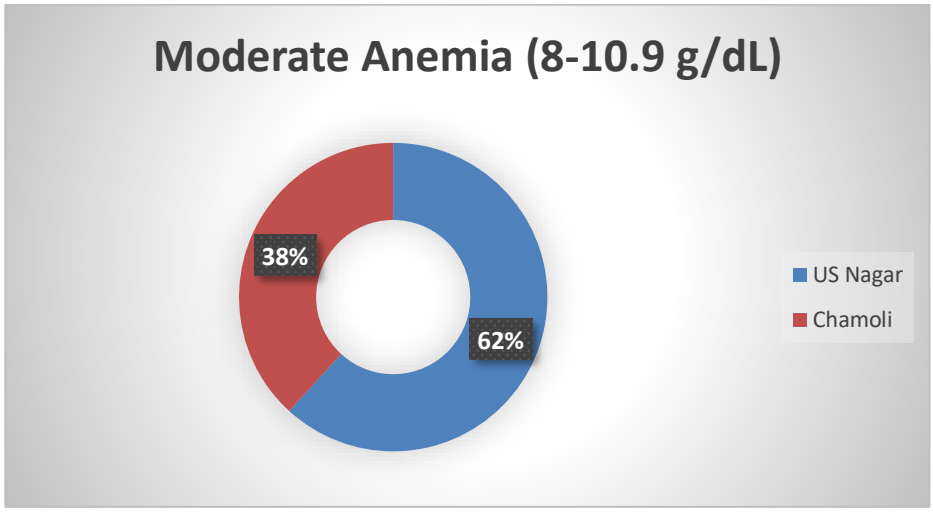


Severity Status:

1) Mild Anemia (11-11.9 g/dL)



2) Moderate Anemia (8-10.9 g/dL)



3)Severe Anemia (<8 g/dL)